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GREAT BATTLES
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KURSK
IL-2M STORMOVIK
JUNKERS JU 87G-1
Model Laboratory
Special
GREAT BATTLES
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Александр Суворов

Editor:
Rodrigo Hernández Cabos

Technical Staff:
José David Hernández Chacón, Luis Gómez Platón, Javier López de Anca y Marta Ramírez Gómez

Coordinating chief:
Marisó Chacón

Have collaborated in this issue:
Tomás de la Fuente, Javier López de Anca García

Historical Texts:
Marta Ramírez Gómez

Photography:
Tomás de la Fuente,
Javier López de Anca
Rodrigo Hernández Cabos

Translation:
Andrés Peréz Fernández

Text correction:
Pete Hamann

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ACCION PRESS, S.A.
c/Ezequiel Solana, 16 - 28017 Madrid
Telf.: 914 086 135 y 913 675 708 - Fax: 914 085 841
accionpress@euromodelismo.com
euromodelismo@euromodelismo.com

Orders at:
Marisó Chacón
Tel.: 913 675 708
suscripciones@euromodelismo.com

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Special

GREAT BATTLES: KURSK

4 PRESENTATION

6 JUNKERS JU 87G-1

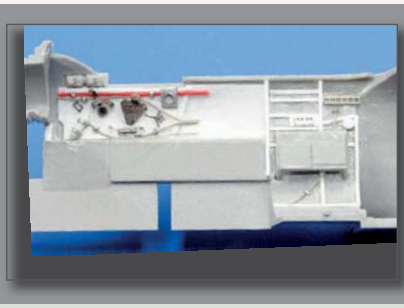
30 IL-2M STORMOVIK

Summer 1943. The German army prepares to relaunch its offensive for the same ground where it had only months ago suffered it's worst defeat of the war to date: The Southern Front. In the coming days, 6000 tanks, 4000 planes and two million soldiers would collide in what would become one of the most spectacular and brutal battles in all of World War II - The Battle of Kursk.

The victories achieved by the Soviet Armed Forces during the Battle for the Volga and the later counteroffensive during the winter of 1942 had a considerable impact on the situation in the Soviet-German Front. The German High Command hoped for a decisive victory which would both soften the political consequences of the defeats suffered during the previous year, as well as wiping out a large number of Soviet units, weakening the entire Russian front. Betting heavily on German technological superiority to improve their odds of a victory, the Germans rushed large numbers of the new heavy Tiger and Panther tanks, and self-propelled Ferdinand vehicles into the theater. In addition to huge numbers of armored vehicles, the Germans looked to the use of combined air and ground power as a force multiplier. From all over Fortress Europa, the Germans drew the best squadrons available and poured them into the airfields of Oriol, Belgorod and Jarkov, In all, 17 squadrons, comprised of more than 1800 planes, were assembled. An additional 200 bombers were stationed in the rear guard airfields. The total commitment of the Lutwaffe numbered some 2000 aircraft - about 70 % of it's total strentgh..

The Soviets, aware of the German plans, sought to protect their ground troops with air cover assembled from units from other fronts, even from the reserves of the Supreme High Command General Headquarters. The Soviet Army gathered 3000 aircraft,roughly doubling the enemy in fighter planes. As the battle raged, wave after wave of Stukas attacked the Soviet armored vehicles, while the Russian planes did the same to the German Panzers. The Luftwaffe attacked industrial sites and communication centers, while the Soviet attacks focused on airfields and ammunition deposits. In a radius of 20 to 60 Kilometers, some 2000 planes engaged in aerial combat involving from 100 to 150 machines at a given time.

On July 20th 1943, facing the possibility of Wehrmacht units being cutoff or trapped, and fearing a repeat of the scenario that took place at Stalingrad, Hitler called off "Unternehmen Zitadelle" (Operation Citadel) and the German divisions retreated to a safer position, but not before German forces had suffered huge losses of irreplaceable crews and equipment.



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JUNKERS JU 87G-1

JUNKERS JU-87G-1 "THE STUKA TANKBUSTER"

Towards the first part of 1942, the Germans realized the power of the armored forces under Soviet command, and the importance of having weapons capable of stopping Russian armored vehicles on the Eastern Front. After testing a variety of aircraft and weapons it was decided to mount the 37mm (Bord Kanon) BK37 anti-aircraft gun in an external pods under the wings of the JU-87D . With a muzzle velocity of 855 meters per second and the use of a tungsten core projectile, a feature which gave the projectile an awesome power of penetration (similar to the modern depleted uranium core used on the A-10 Warthog), the BK37 was a natural choice for tank-busting.

During January of 1943, this magnificent weapon was tested under the command of expert pilots like Hans-Karl Stepp (Staffelkapitän to the 7./St.G2) and the Oberleutnant Hans-Ulrich Rudel (Staffelkapitän to the 9./St.G2) employing for the occasion a Ju-87 model D-1. Additionally they created a special test unit known as the Versuchverband für Panzerkampfung (Special Anti-tank Unit), under the command of Oberstleutnant Otto Weiss. The tests showed that mounting such a devastating weapon on a Stuka resulted in a slower and less maneuverable aircraft. I an attempt to mitigate this, the decision was made to eliminate the under-wing dive brakes as well as the wing mounted machine guns, which were covered with a fairing. All of the D-1 and D-3 models which were modified (a total of 25 units) were designated G-1. During April of 1943 these machines were deployed on the Russian Front. The tank-busting Stuka G1/2 soon proved itself in battle with Rudel alone destroying more than 500 Russian tanks. The specific machine we're dealing with was assigned to the 3./St.G1. during the desperate battle for Kursk, many Stukas made up to 6 outings a day. As a matter of fact, during the first day of this battle, Rudel scored 12 tanks on his first outing alone.

TOMÁS DE LA FUENTE

A professional hobbyist with a long experience in the field, he is the kind of person who likes to assemble every kit by the book going through all pains to make sure that every register is in place and always double checking to make sure that the color pattern of the vehicle fully corresponds with the version and the historical period. He's however always open to embrace the newer materials and techniques in order to achieve top notch realistic results.

IL-2M STORMOVIK

"I WANT AN INCREASE IN PRODUCTION"

Josef Stalin was quoted as saying that the Red Army needed the Il-2 "as much as men need air and bread". Throughout its operational life, 36000 units of this attack aircraft were manufactured. In fact, when compared the total quanitity of other well known models, we find out that for each Hurricane that left the factory there were three Il-2's produced and that for every Lancaster produced, five Stormoviks rolled off the line.

For the U.S.S.R., having an aircraft capable of backing up its land forces became a priority, so special attention was paid to designing a well armored aircraft that could destroy armored vehicles and pocket resistance areas over well-defended areas. Towards 1938, Iliushin and Sujoi were commissioned to design an aircraft possessing those characteristics. Iliushin expressed more interest in the project and promised Stalin that a prototype would be available for State trials later the same year. The Il-2 featured a liquid-cooled 12 cylinder engine and a structure built around a heavily armored core. However a general wartime shortage of metal and supply issues suffered by the Soviet Union during WWII lead to including an increased use of wooden parts. Weapons, wheels, and radiator designs were also modified to adapt these to the combat needs which arose when facing the Luftwaffe fighter planes and the attack of the German armored vehicles. In spite of Stalin's reluctance to accept modifications,eventually a rear cockpit with defensive armament in the form of a ShKAS 7.62MM machine gun was introduced due to the fact that most IL2's lost to air attack were hit from the rear. Very few side attacks (possibly attempts to captolize on the IL2's somewhat vulnerable radioator) were succesful and no losses were due to frontal attacks.

Amongst the many noteworthy Il-2 pilots are Lieutenant Anna Yegorova, who undertook more than 200 missions and was decorated in three occasions, and V.P. Aleksukhin, who's exploits at the controls of the IL-2 denied the Wehrmacht a great deal of desperately needed war material . Aleksukhin´s plane is featured in this article.

JAVIER LOPEZ DE ANCA

This hobbyist develops his projects in association with Marta Ramírez Gómez, who does professional research on the subject to be dealt with – she holds a history degree as a matter of fact-. Javier belongs to the newer generation of hobbyists and always analyzes and absorbs the latest techniques and concepts in the trade. Such qualities lead to an output of work which turns out to be both bold and daring; being capable of successfully doing for example a modern plane with all of its complex equipment, or a period AFV. His skills shine when he achieves a final result of the highest quality.

JUNKERS

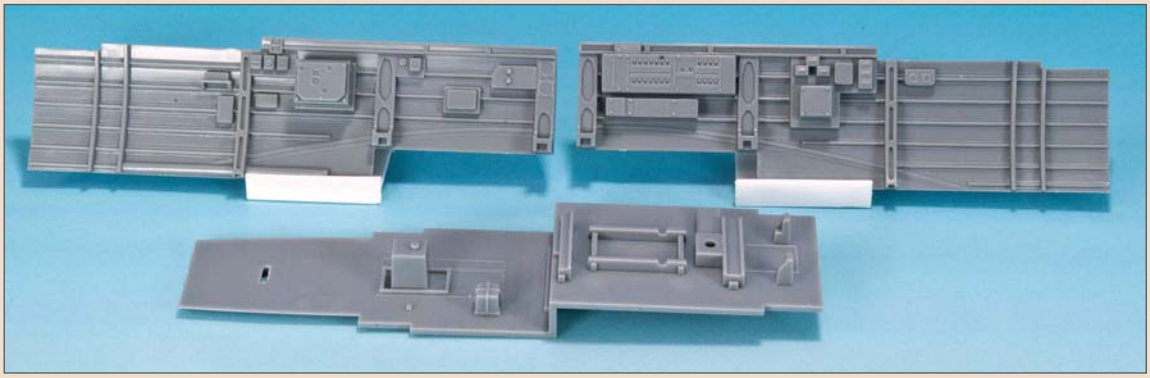
By: Tomás de la Fuente
Pictures by the author
Hasegawa, scale 1/32

MATERIALS EMPLOYED

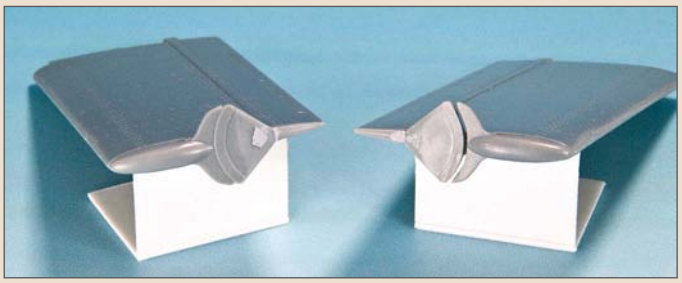
Belts: Eduard ED32564
Exteriors: Eduard ED32155
Interiors: Eduard ED32561
Cabin mask: Eduard EDJX053
Markings mask: Montex Mask MM32046
Stencils: Hobbydecal 32009S1
3,7cm Boardcanone: RB model 32AB12
Machine guns MG-81Z: Air Master AM-32-026
Resin interiors: Aires 2068

JU 87G-1

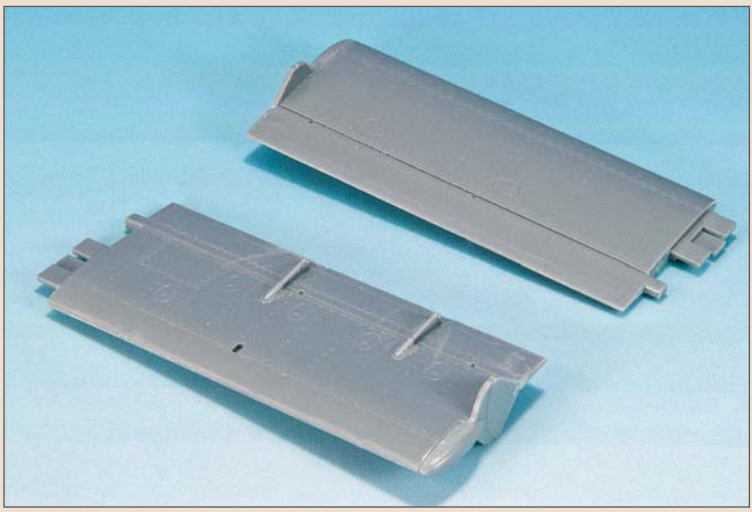
MOUNTING

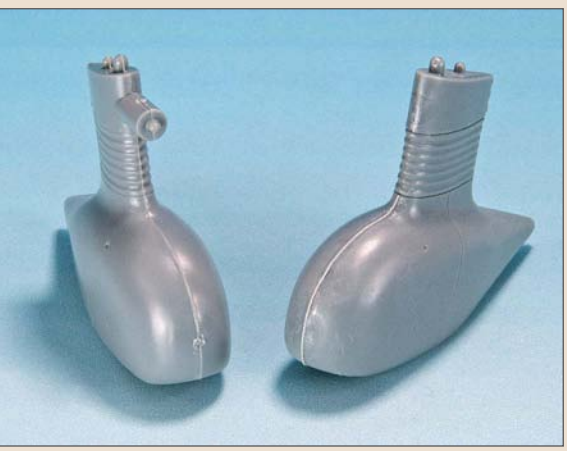


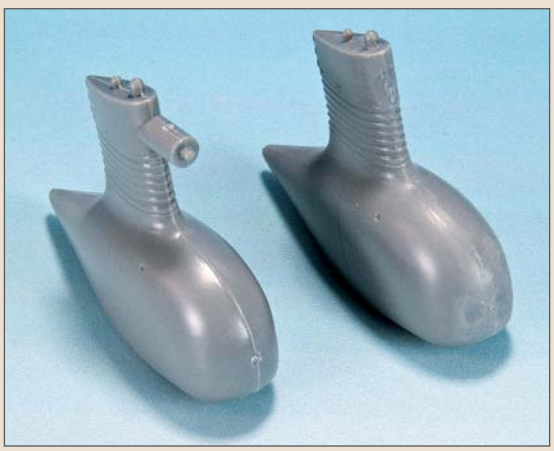
The cockpit is composed of three main pieces; the bottom, left-hand and right-hand side pieces.

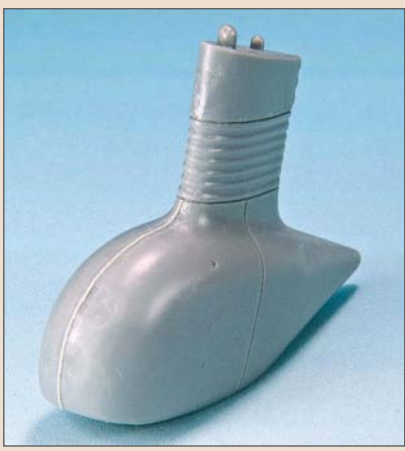


Detailing and assembly was broken into several sub assemblies. The horizontal stabilizer and elevator were seperated by repeated scribing with a needle in a pin vise.





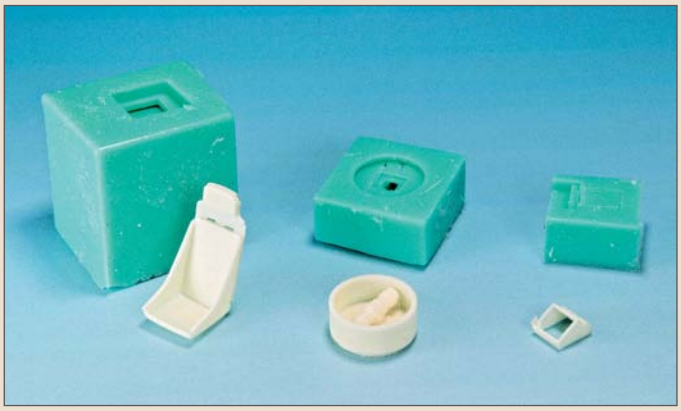




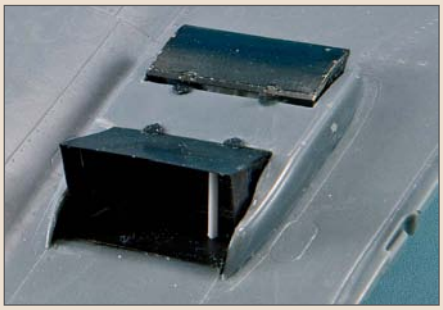
The main gear spats required special attention. The bosses for the unmounted sirens were removed. To help portray the rough treatment and desperate conditions of the Eastern Front, various dents and dings were added using a flat knife and sandpaper. Small touches like this go a long way in conveying the illusion that these are machines made of sheet metal and not solid chunks of plastic.

7. Muchas piezas de fotograbado hay que soldarlas con estaño, pues son cajas que deben ir perfectamente cerradas. Para ello me ayudé de un gel decapante, que se aplica en toda la línea de unión, para que así el estaño quede fijado sin problemas.

In the meantime all of the various photo etched parts were added to the engine cowling, engine, the radiators, the filter grilles, the Junkers emblems on the exhausts, etc.



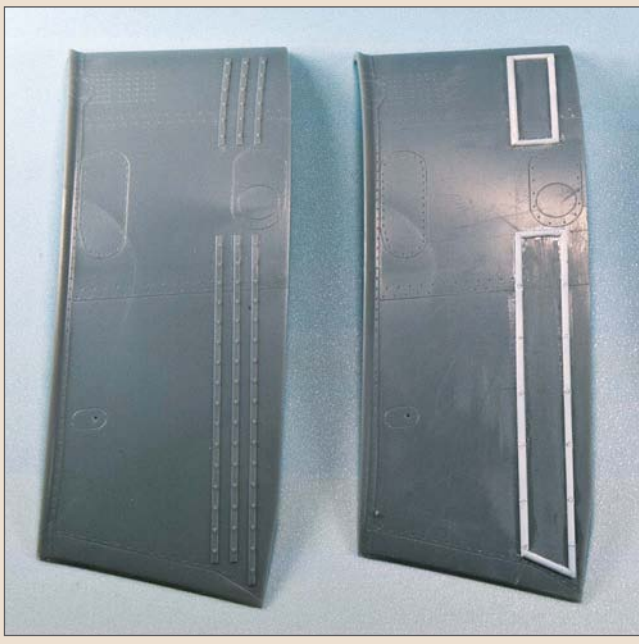
Due to a lack of detail on some of the kit parts, resin copies of more highly detailed parts from the spares box were made. The pilot's seat, the navigation aid system and the pilot's lower bombsight were placed into mold boxes made of Evergreen styrene sheet. Silicone mold material was applied and allowed to cure for a day, then the new parts were cast from polyurethane resin.

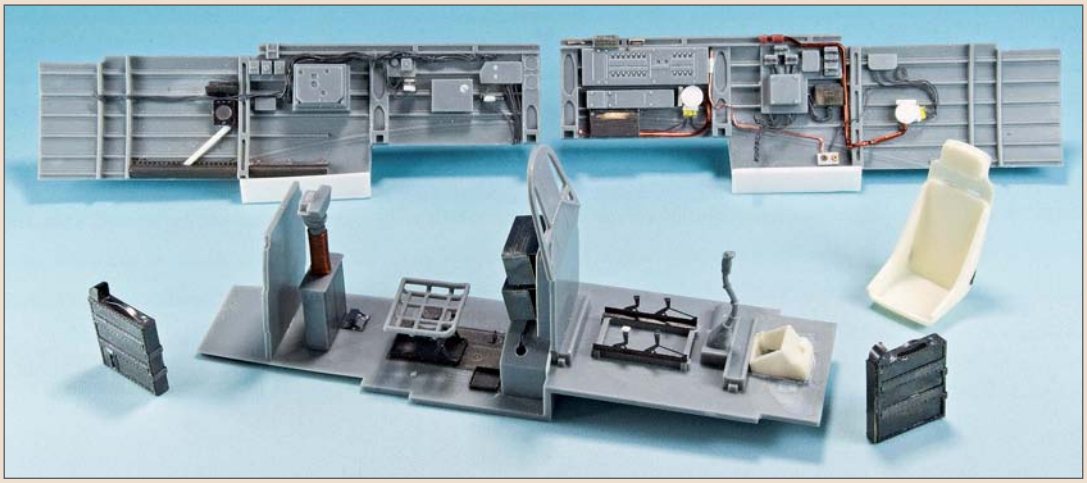


The access panels for the radiators were fully replaced with the ones on the Eduard photo etched set.

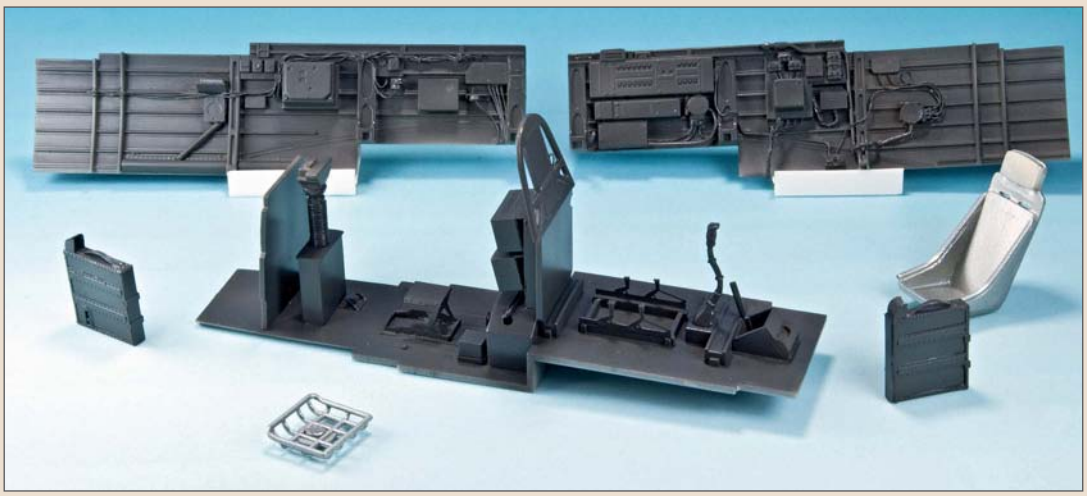
The walkways on this version were basically a rubber strip held in place by metal strips riveted to the wing, and not the riveted strips portrayed in the kit moldings. These were removed with sandpaper and the strips were reproduced with Evergreen styrene strip.

The full scale Stuka wheels were smooth, so the tread on the kit wheels was filled with cyanoacrylate glue and sanded smooth.

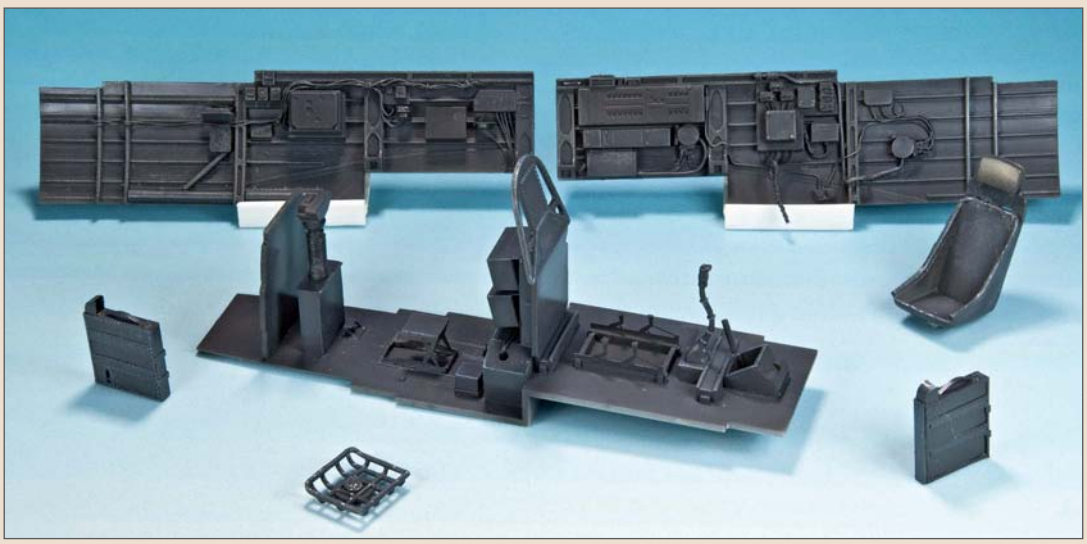




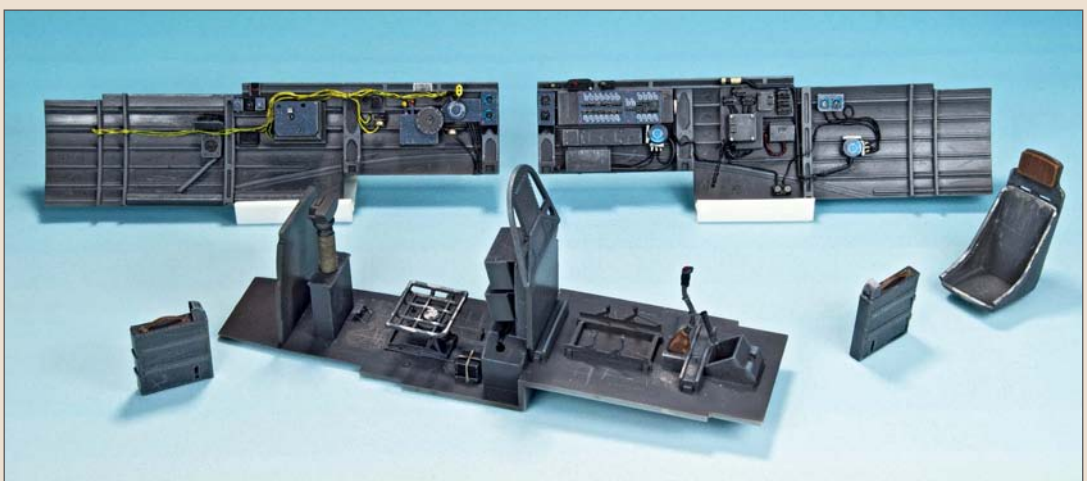
Numerous photo etched pieces, electrical wiring connections and oxygen hoses were added to the interior, with the use of research materials being an invaluable tool here. (Aerodetail issue 11).



The entire cockpit was painted with RLM 66, (Gunze H-416) except for the seats which were first covered in aluminum colored paint in order to do a few paint scratches later.

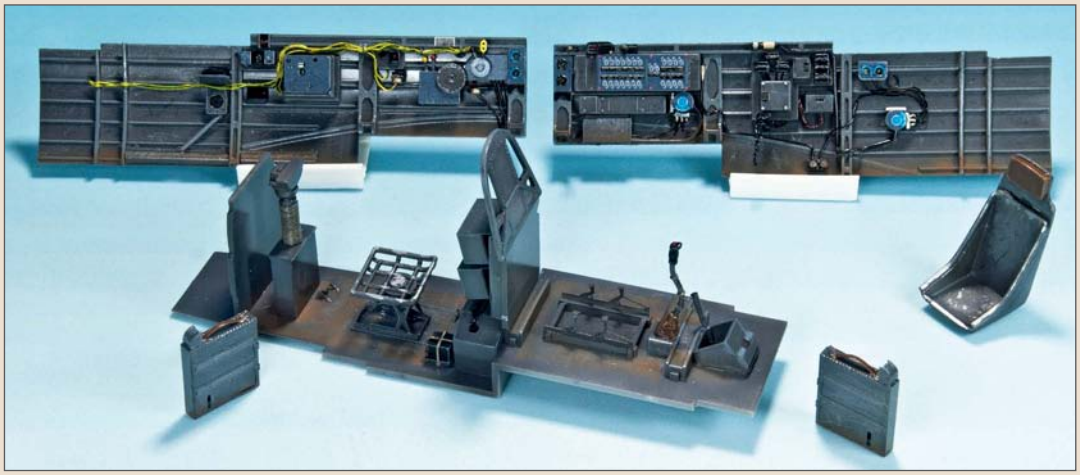


All of the internal surfaces were treated with drybrushing with Modelair's 71051 Barley Grey. This was done to represent crew wear and also to help enhance definition.

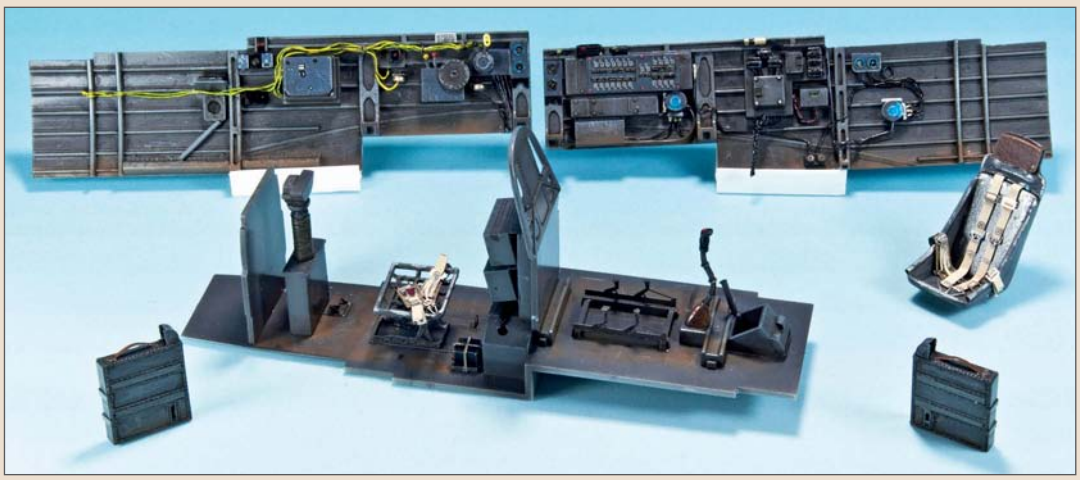


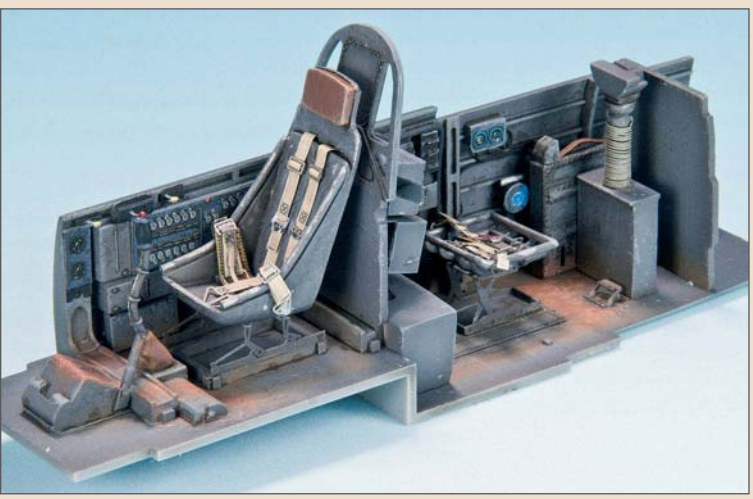
The remaining photo-etched interior details and Plusmodel cables were placed and painted with Vallejo acrylics. Liquid masking was removed from the seats to reveal the metal surface underneath.

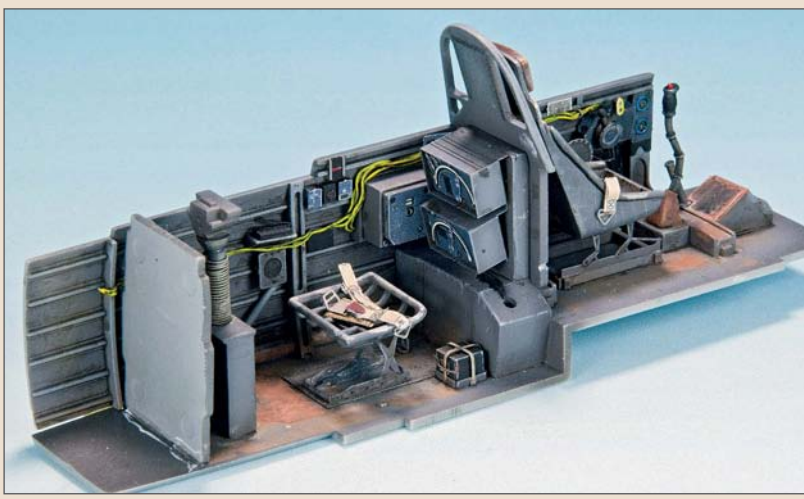
Tamiya sand colors were applied to simulate sand and dirt clumps left by the crews' boots.



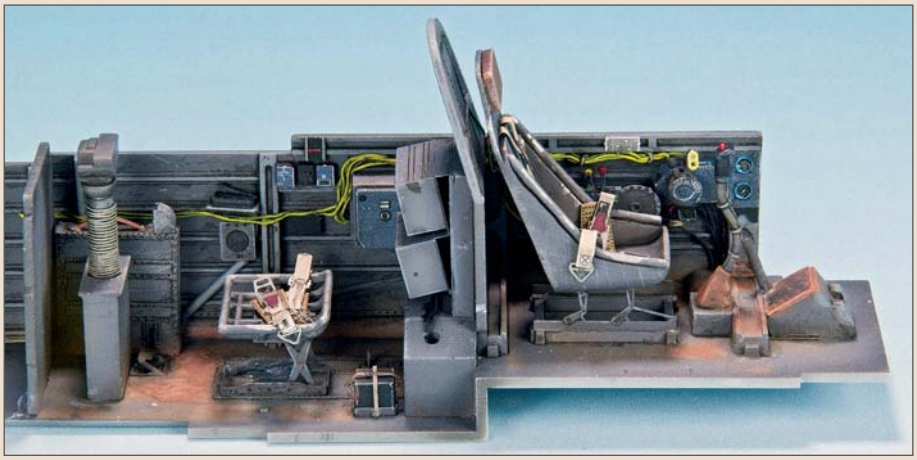
Future (Johnson's Klear) was applied to seal the existing paint and to serve as a protective barrier for later enamel based washes. Mig Production's Dark Wash was applied. This product helps us enormously to enhance all volumes. The cockpit was completed with the application of matte varnish.

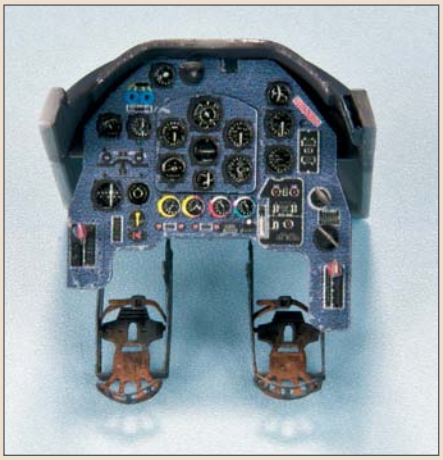


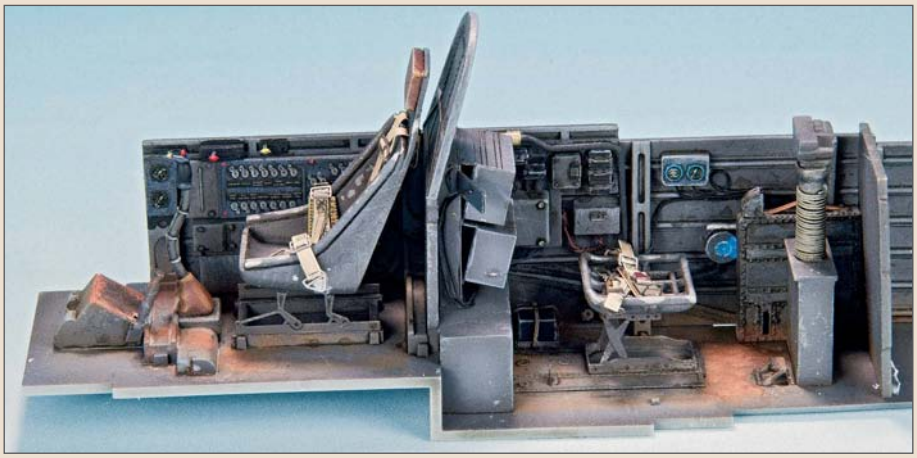


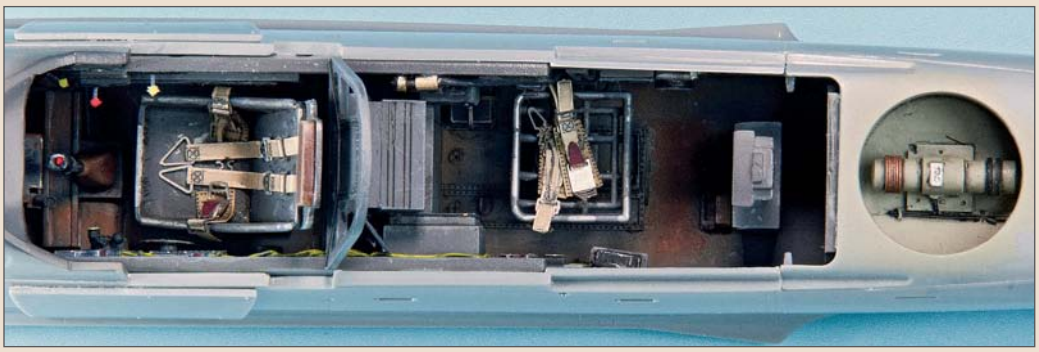


Photos of the completed cockpit.









The navigational antenna has been painted RLM 02 (Gunze H-70). Some details here were picked out with Vallejo acrylics, the piece fits wonderfully to the fuselage.

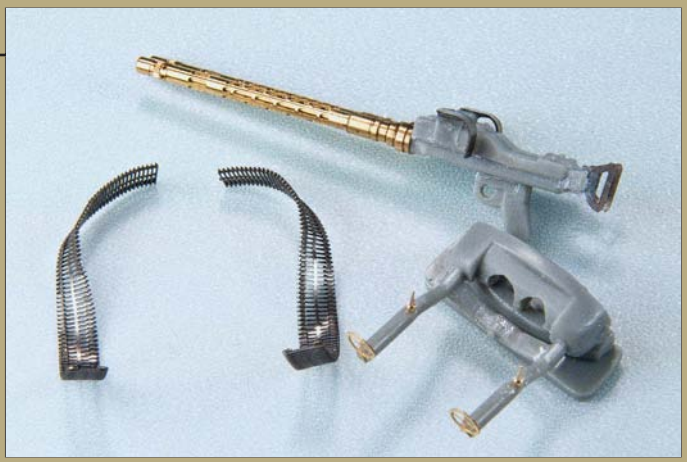
The exhausts were painted randomly with the three colors. The result conveys the discoloration created by extended use.

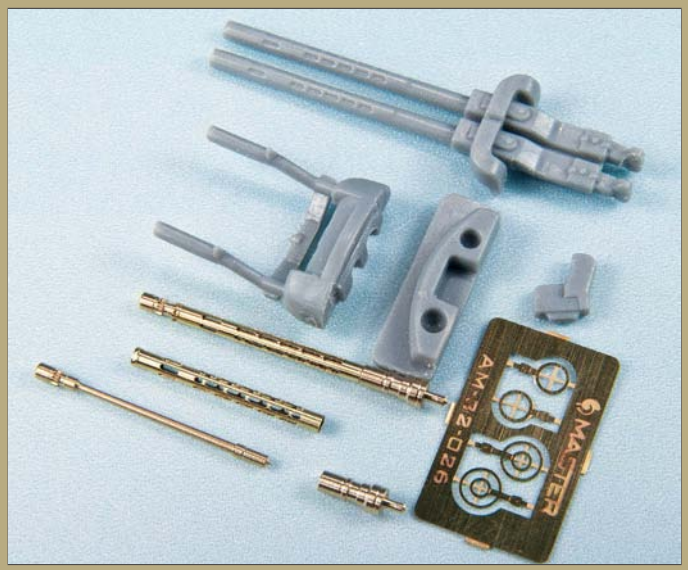
HELIX

At this point attention turned to the propellor. The blades were painted RLM 70. A bit of white and yellow was added to the base color and applied to the blades in strokes perpendicular to the blades long axis to convey wear from air flow. Brown watercolor pencils were used to simulate the paint wearing down to the wooden leading edges of the blades. Finally the blades were assembled to the propeller hub, allready painted with RLM 70 with RLM 23, the color for the 3./St.G.1 applied to the tip.

MG 81Z

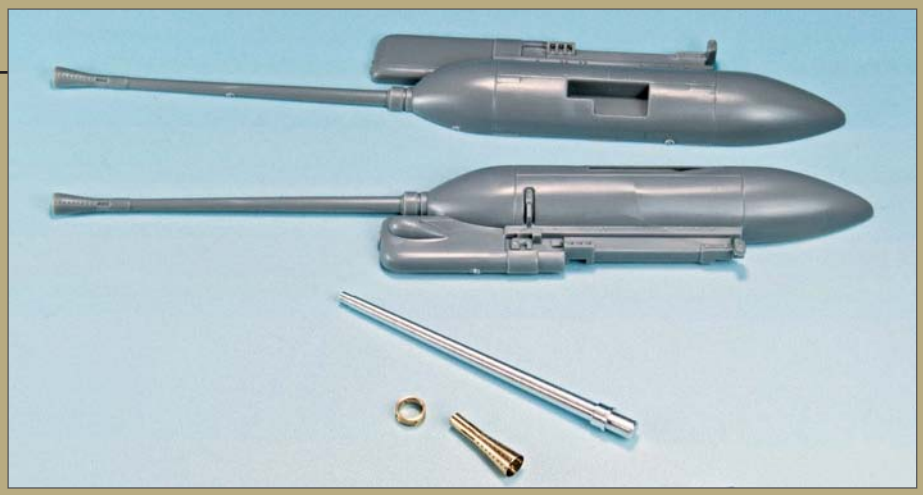
The rear MG 81Z gun benefits greatly from replacement of the barrels with the Master pieces which are excellent and also come with the sights. Everything fits wonderfully. Eduard's ammunition strips were used after molding them to fit the weapon. After painting with Alclad Gun Metal the weapon's features were gone over with a graphite pencil lead. The effect is very realistic.

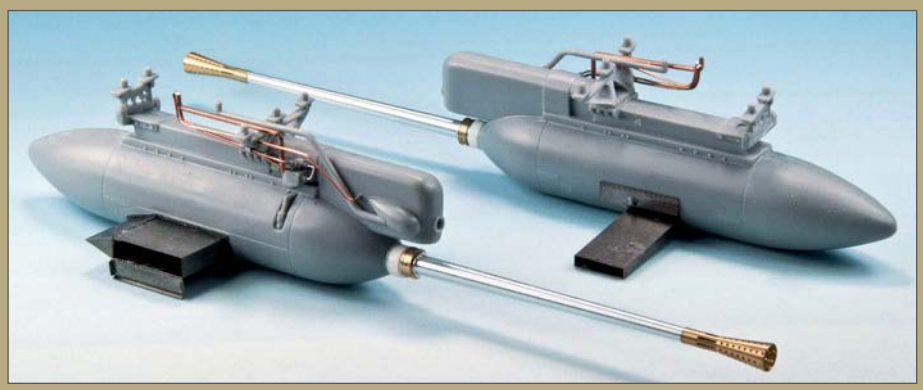




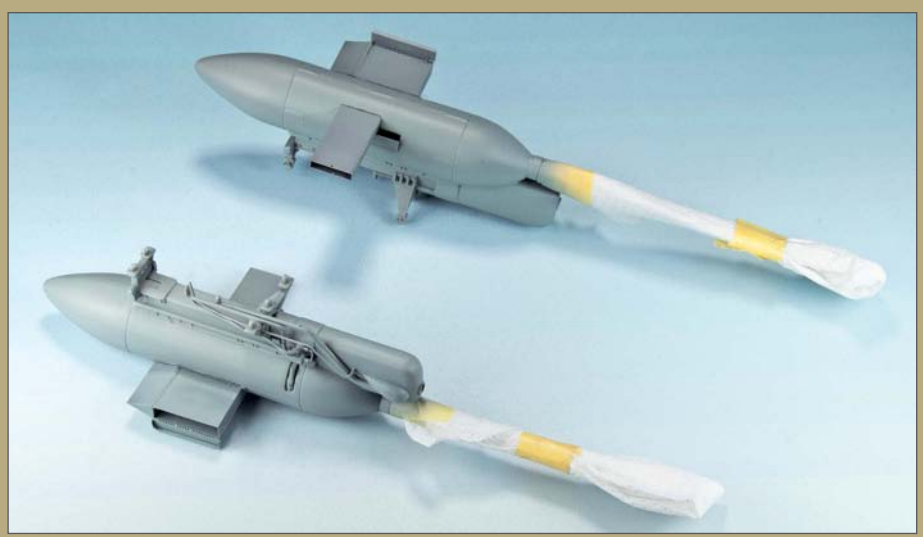
CANNONS BK-37

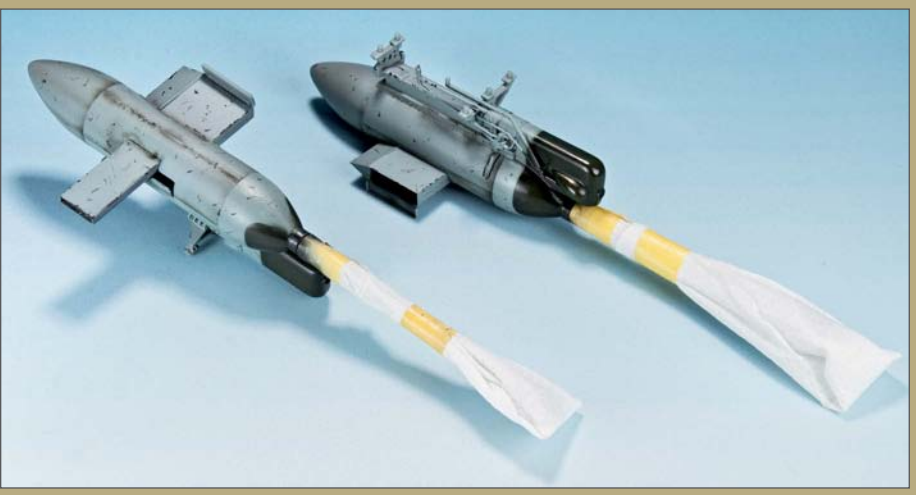
Special care was taken when assembling the BK 37 machine guns. The rather poor styrene barrels were replaced with accurate turned metal replacements. The weapon magazines were also replaced with photo etched pieces, and all of the pneumatic and electrical wiring was reproduced with copper wire. These additions considerably improved the look of the guns.

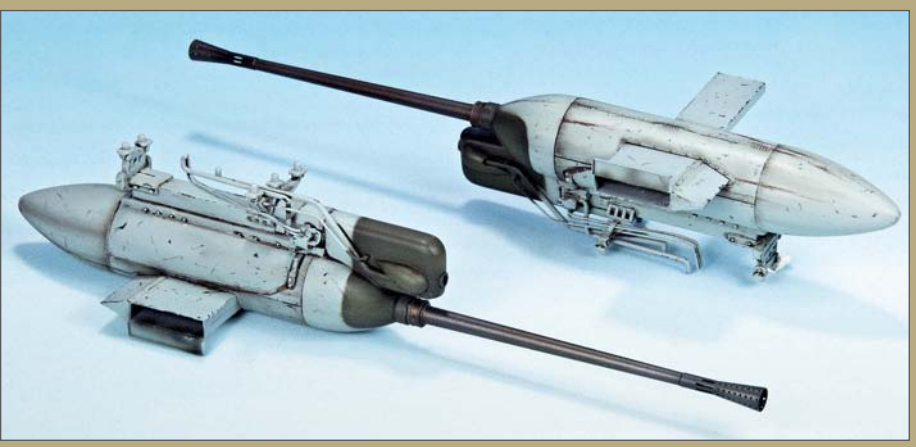


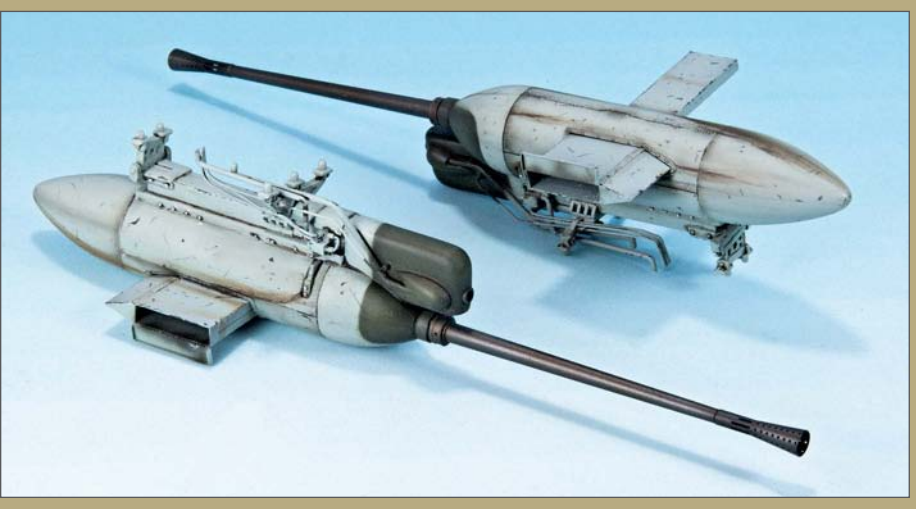


The BK37 gun barrels were painted with Alclad II' ALC-120, followed by an application of transparent coats of a mixture of Tamiya X-27 and X-24 to create the effect of heated metal (picture 44). The gun fairings, magazines and cables were painted with RLM 65 (Gunze H-67). Simulated touch ups were added using RLM 70 (Gunze H-65) The RLM 65 was lightened a bit and used to add scratches. Vallejo's acrylic paint was applied arround panel lines with an airbrush and the entire model was varnished with Future. Enamel washes were applied to all guns with Mig Productions' Dark Wash and matte varnish was applied, finally, sand colored pigments were applied to increase the feeling of dirt and wear. The guns were set aside to be attached later.



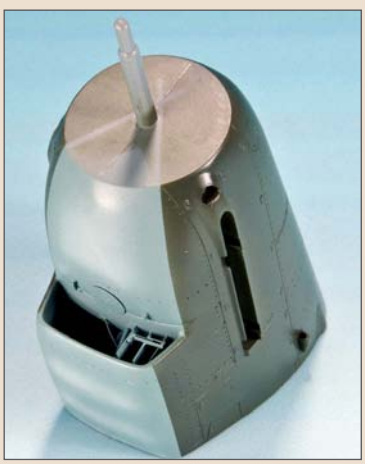


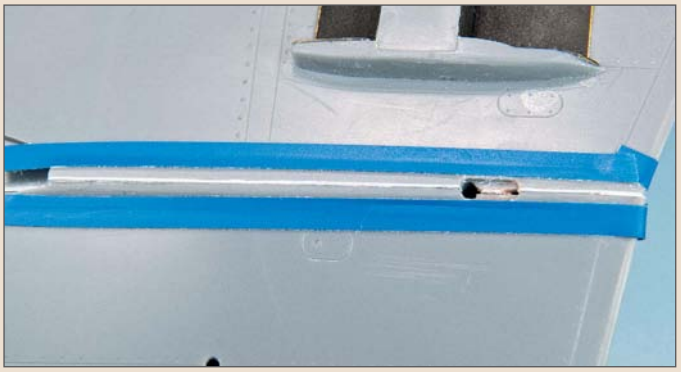




The wheel spats show bare metal on areas of heavy wear and abuse, with the leather compresion cover being painted with Vallejo's tan color. I finished by airbrushing sand colored Tamiya paints onto the lower portions of the gear to convey the feeling of dirt and heavy use.

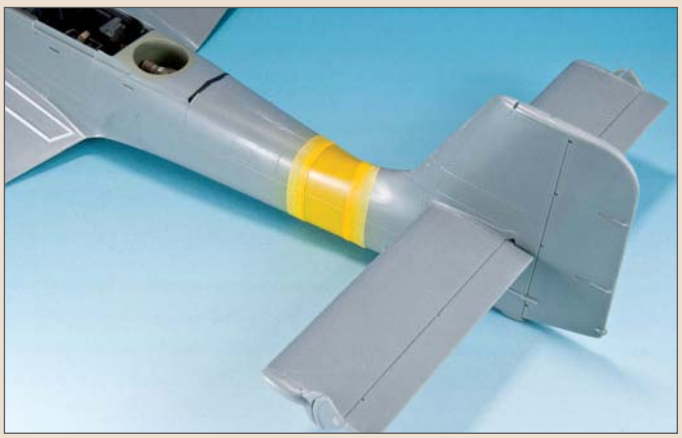
The cowling and radiator areas were painted with Alclad II's Gun Metal. These areas were then worked with pencil lead to accentuate their form, then dirtied with Mig Productions' sand colored pigments to recreate dirt and accumulated dust. Everything was assembled in place and painted its corresponding camouflage pattern. This piece will be glued to the plane later on.



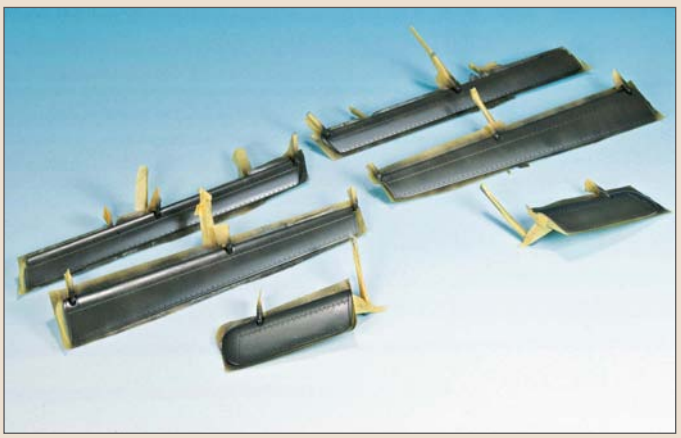


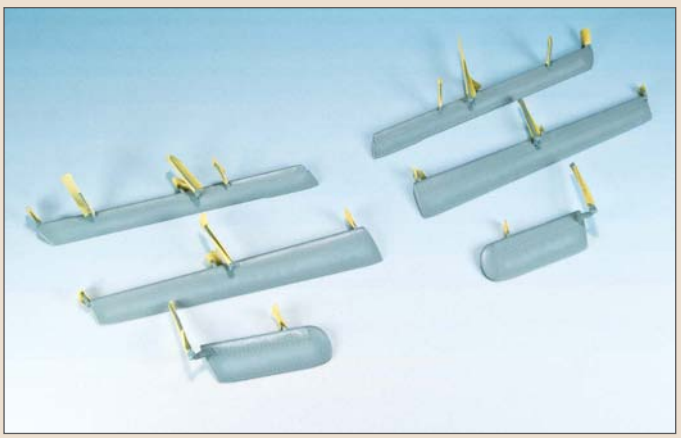
A critical phase in this kit is the mating of the wing to the fuselage. The fit is quite poor, and putty needs to be used on the upper area. The lower area in turn needs some styrene sheet filler in order to be able to work easily without harming adjacent details. I used some "Artesanía Latina" masking tape to isolate the area while the seam was dealt with.

In order to place the actuators accurately on the control surfaces, they were temporarily tacked in place using Blue-Tac while adjustments in alignment were performed.



Painting the yellow band for this theater of operations began by using RLM 04 (Gunze H-413).

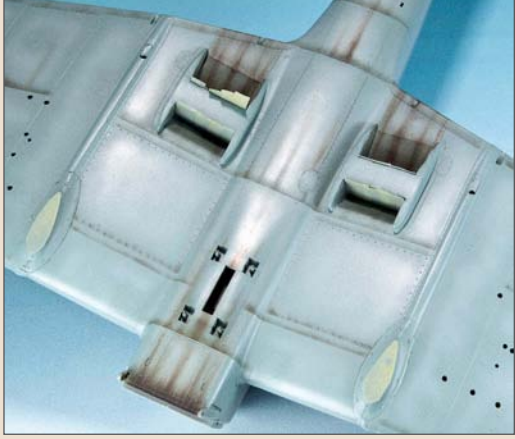


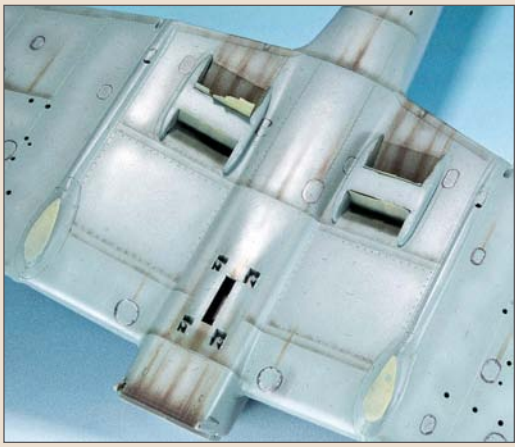


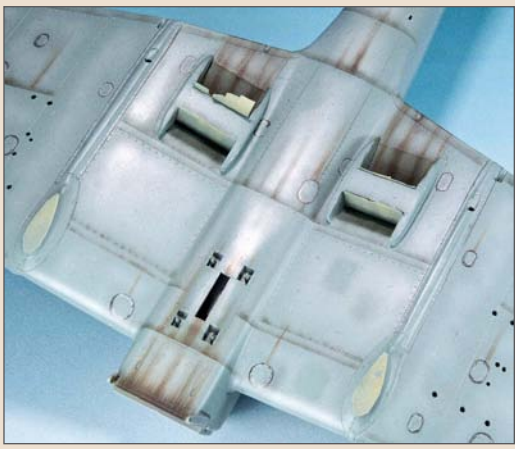
The control surfaces were filled with putty. A coat of RLM 65 was applied to the lower surfaces and once this dried masking was applied and the lightest color was applied to the upper surfaces; RLM 71 (Gunze H-64),

Painting on the lower surfaces began with a base coat of RLM65 (Gunze H-67. Once that dried the base color was lightened with 50% Tamiya XF-2 and applied to the panel lines in order to convey use and wear. Afterwards, Montex Masks were applied and the German codes and emblems were sprayed with Tamiya's X-18 and XF-2.

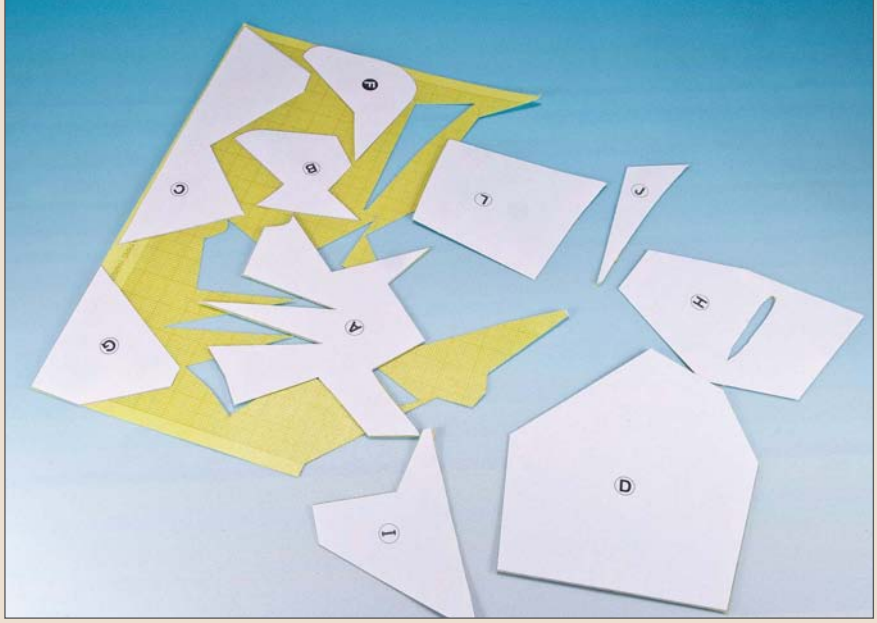
Tamiya's weathering set was used to dirty the lower areas using brown applied with a rubber brush, trying to convey the loss of oil and other fluids in the areas where this is likely to happen, mainly on the radiators and registers. Fine scratches were applied using a fine brush and Vallejo gray acrylic paint. Some base color patches were added to imitate areas which had been hit with shrapnel and then repaired.





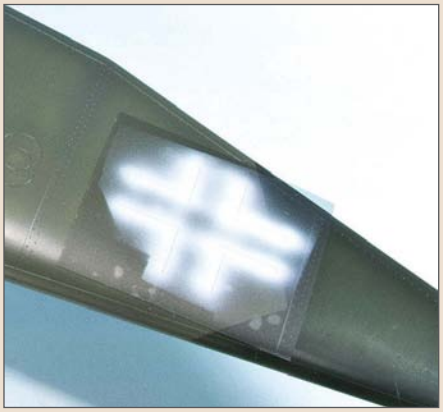


The upper surfaces, after masking the lower surfaces with masking tape, received a base coat of RLM71 (Gunze H-64). Once dried thoroughly, the same color, lightened with white and yellow paint, was applied to certain panels in order to create panel wear.

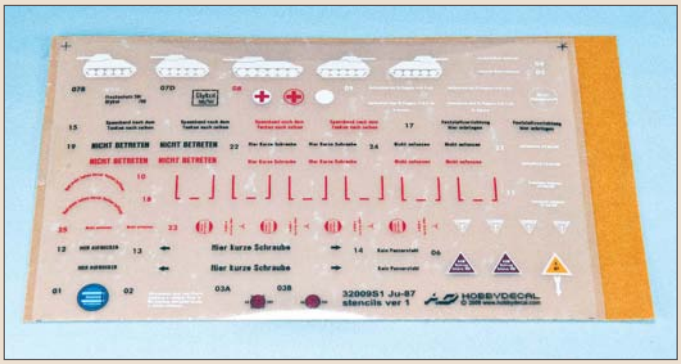


The kit includes templates intended to help you apply the camouflage pattern. I copied the shape of these onto a sheet of Tamiya's adhesive paper. The newly created stencils work wonderfully on the kit. All that's left is to airbrush RLM 70 (Gunze H-65). Once that dried and before the masking was removed , the base color was lightened with a bit of Tamiya white and yellow and applied to the panels.

The markings on the upper and side surfaces were applied using Montex masks.



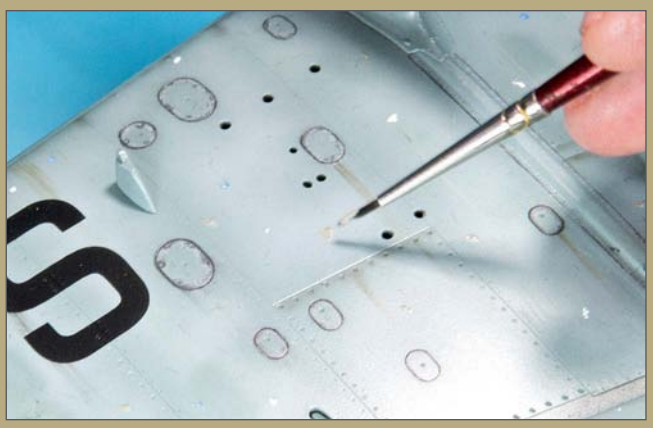
In preparation for applying the remaining decals and the oil paint panel detailing, a coat of Future was applied.

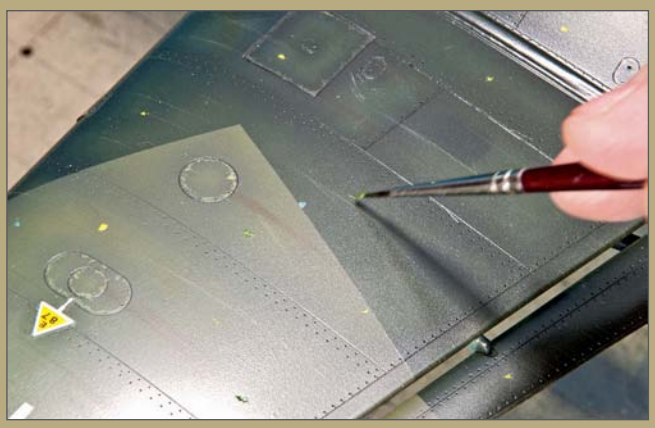


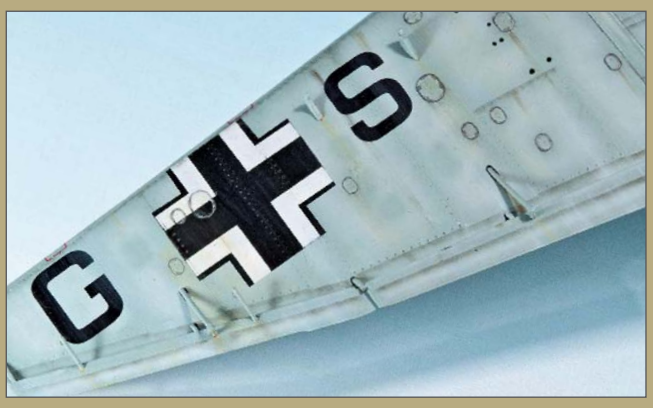
Among the decals included in the kit, the famous T-34 emblem these aircraft sported on their cowlings is sadly missing. I had to find this in the Hobbydecal transfer set (obtained thanks to my friend Javier López de Anca), and applied it after cutting this design away. I put it in place and rubbed the support sheet until the transfer stuck to the surface. Caution must be excercised when doing this, because these transfers do tear easily and are not so easy to use.

Overall chipping and scratches on the airframe were re-created using several mixtures containing the three colors. These mixtures were applied to the areas prone to wear.

OILS



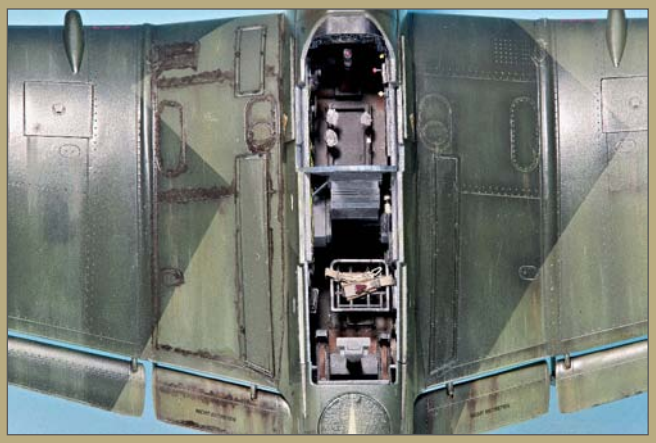


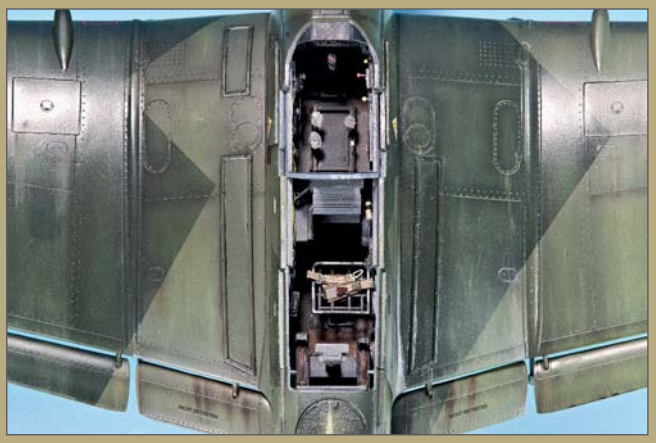


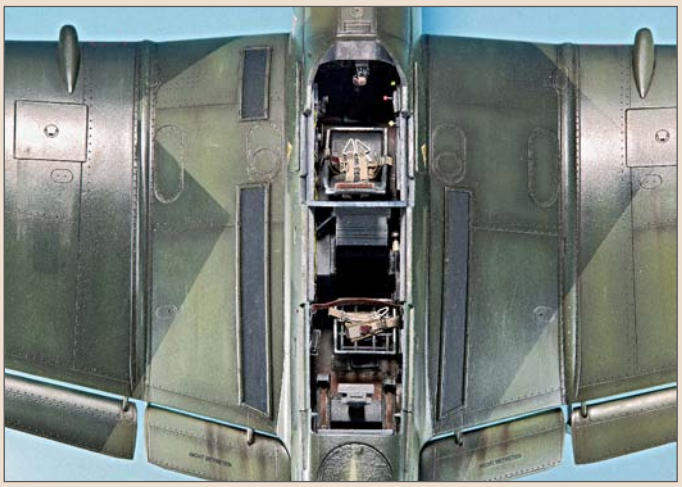
Further weathering effects were applyied using oil paint filters. These colors were first placed on tissue paper which helps soak excess oil. White, blue and grey were applied in a random way in small specks to the lower surfaces. A flat tipped paintbrush dampened with Humbrol thinner was stroked following the direction of the air flow, blending these colors almost completely. On the upper surfaces the remaining colors were applied and blended just like those on the upper surfaces.

PANELING

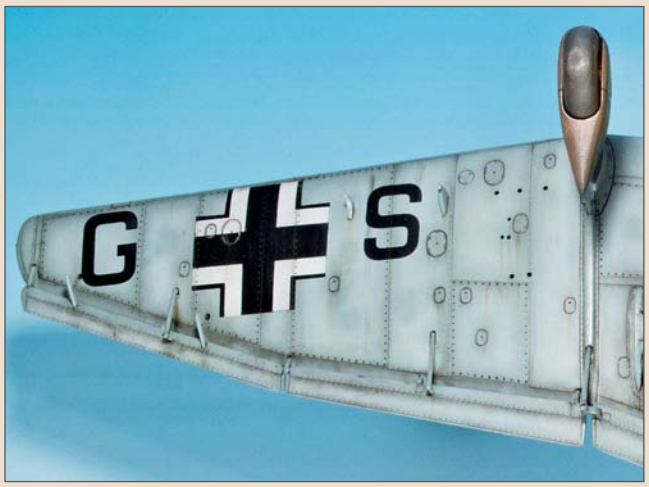
A pin wash was applied to the entire aircraft with Mig Productions' Dark Wash, beginning with the lower surfaces and the rudders, soaking the brush and letting paint run through the panel lines and going over the rivet lines, once it was thoroughly dry I removed excess paint with clean tissue paper always dragged in the direction of the air flow.







The walkways were painted with a mixture of XF-1 and XF-69 which leaves a convincing rubber look.



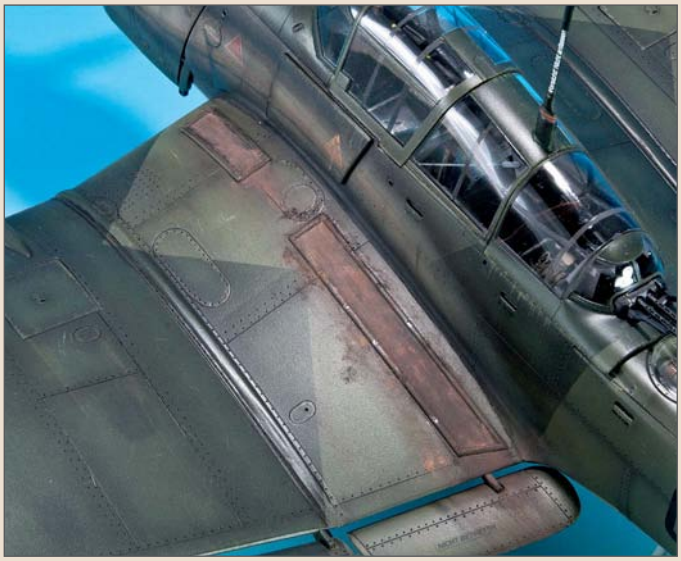
The left side is drying. We can see the result obtained after paneling the entire lower surfaces.

PAINTING OF LEAKS

Paint on the exhausts was done in a special way, because planes in the Eastern Front came back with some rather peculiar stains. The shape of these stains was outlined with a mixture of Tamiya XF-1 and XF-69, the center area of the stain was then filled with a 4:1 mixture of Tamiya's XF-55 Deck Tan and XF-57 Buff diluted to 10% paint and 90% thinner.

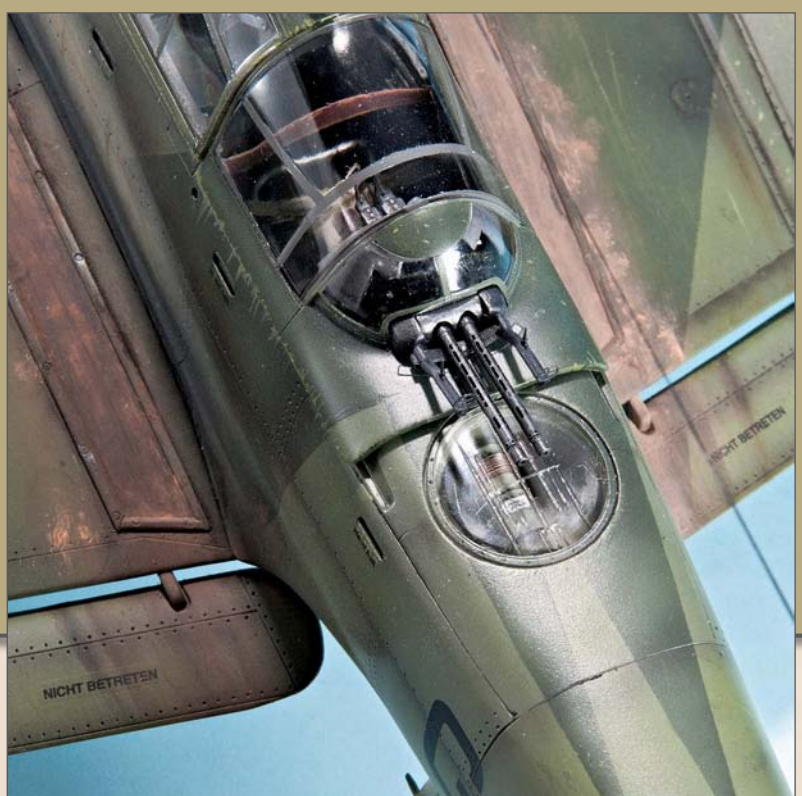
The completed stains. The Tamiya "make up" set was applied with different rubber paintbrushes and sponges.

Protective varnish is the last step. The entire model was covered with a mixture of 4:1 Vallejo polyurethane acrylic matte and satin varnish, thinned to 25% varnish and 75% thinner using Tamiya's X-20 thinner. The stains on the exhausts and the walkways were however varnished with mat varnish. The walkways were dirtied recreating the effect of dust and footsteps with Mig Productions' pigments, applied with the pigment fixer manufactured by this brand.



MIG
Dry Mud
P232
MIG
African Earth
P038
MIG
Russian Earth
P034
MIG
PIGMENTS
75 ml
MIG
productions
PIGMENT FIXER

JUNKERS JU 87G-1


NICHT BETRETEN

COLOUR CHART

INTERIORS:
Cockpit:
Color Base: RLM 66: Gunze H-416
Lighitng and surfaces which stick out: Modelair 71051
Other components or compartments:
RLM 02: Gunze H-70

GUNS:
Color Base: Gun Metal Alclad II ALC-120
Transparencies: X-27 red varnish + X-24 yellow varnish (aproxímately) + 90% alcohol

COWLING:
Color base:
RLM 65(Gunze H-67)
Lighting: Color Base + XF-2 + 90% alcohol

PROPELLER:
Blades:
Color Base: Gunze H-65
Lighting: Color Base + XF-2 + XF-3 + 90% alcohol
Propeller Hub:
Tip: RLM 23 XF-7

FUSELAGE:
Camouflage:
Base:
RLM 70: Gunze H-65
RLM 71: Gunze H-64
RLM 65: Gunze H-67
Lighting:
H-65 + XF-2 + XF-3 + 90% alcohol
H-64 + XF-2 + XF-3 + 90% alcohol
50% H-67 + 50% XF-2 + 90 alcohol
Band from its theater of operations:
RLM 04: Gunze H-413

WALKWAY:
Approximate mxiture of XF-1 + XF-69

EXHAUSTS:
Mix freely the following:
XF-10, XF-64, XF-79

EXHAUST STAINS:
Base:
XF-1+XF-69 freely mixed.
Inner color of stains:
4:1 XF-55 + XF-57 + 90% alcohol
Stains are completd by using the B de "makeup" Tamiya set.

FINAL VARNISH:
4:1 mat varnish satin varnish Vallejo polyurethane acrylics 75% thinner X-20A

IL-2M STO

ORMOVIK

By: Javier López de Anca
Pictures by the author and Rodrigo Hernández Cabos
Eduard, scale 1/48

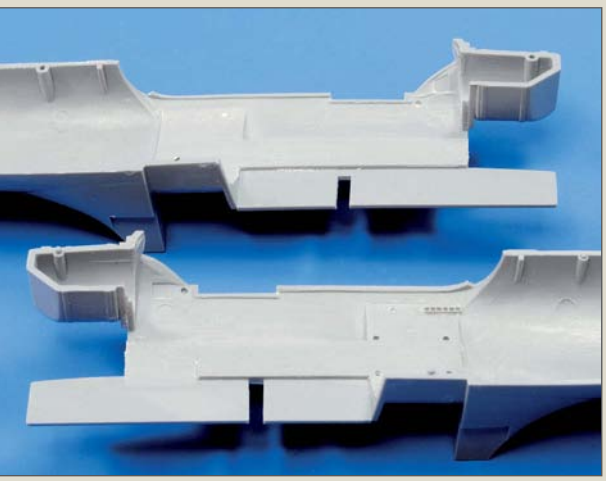
MOUNTING

These are the materials chosen for making the improvements. Perhaps the most important one is the propellor and hub from Vector , because the ones included on the kit are the wrong versions.

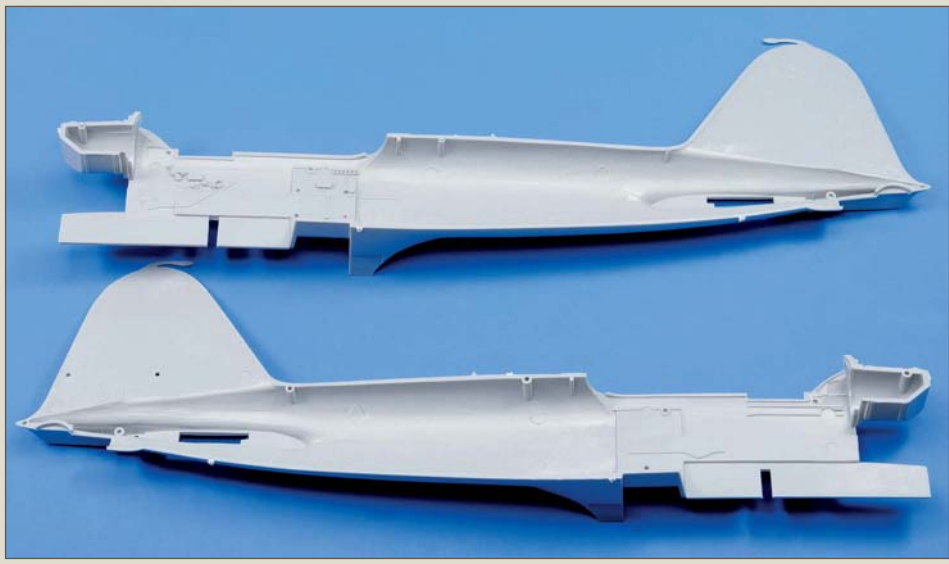
The Eduard kit is the old Accurate Miniatures mold. Compared to the newer Tamiya kit, it shows it's age, but with a little help and some simple improvements can be brought up to a high standard. Bear in mind that the Eduard kit portrays an IL-2M aircraft, while the Japanese kit portrays an IL-2M3.

When removing the styrene pieces from the sprues it is important to use nippers in order to avoid unwanted tears on the kit parts.

Surface detail is acceptable with a number of improvements, whereas the inside is much too simple and has some mold ejector marks that need to be adressed.



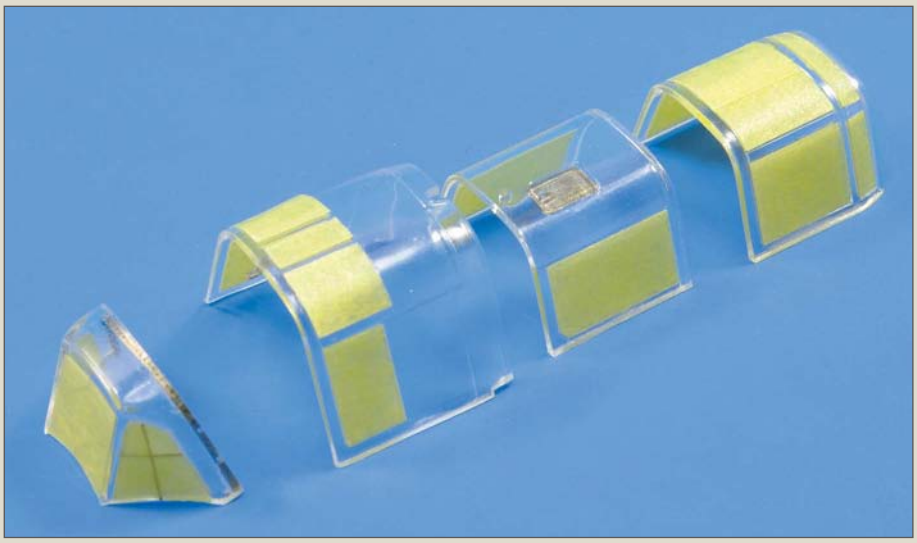
Once we've discarded the possibility of correcting the original detail, the best option was to do away with it entirely and rebuild the corrected version from scratch. Removal was accomplished with sandpaper, water and a steel brush.



In spite of the fact that the windscreen is detailed it becomes necessary to work on it in order to be able to paint it later on. This should be done carefully in order not to scratch the areas that are to be left transparent.

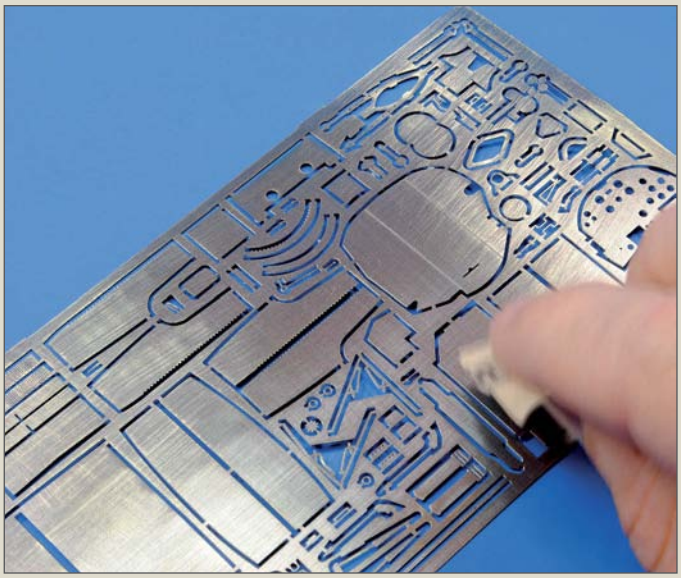
The piece has been painted with a very light gray. Don't worry too much about a little stray paint on the transparent areas, as a little excess can be easily removed with a piece of cotton.

In this picture we can see how paint has settled on the indented area, marking the line beautifully.

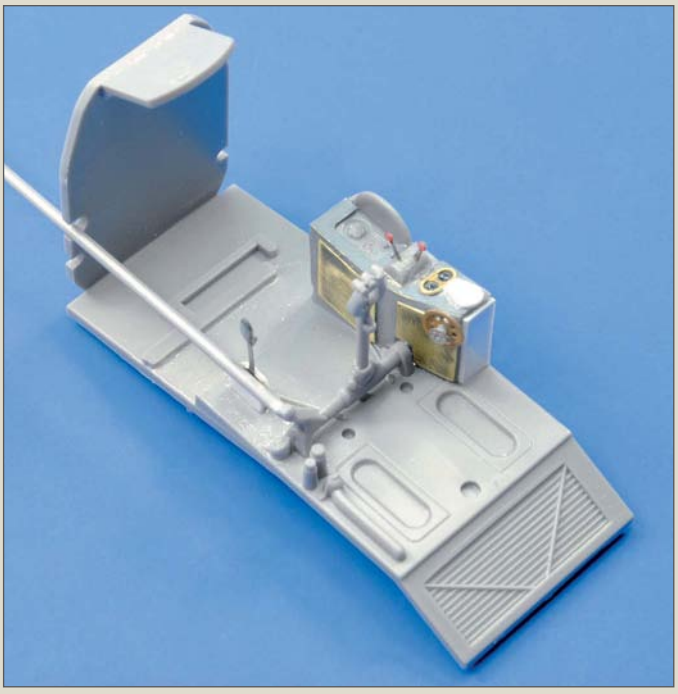


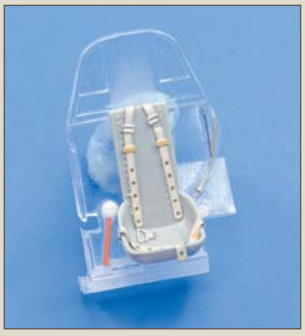
These are not 100% necessary, but the Eduard masks will save a lot of time, and make masking the inner surface easier. Great care is necessary when gluing the photo etched pieces to the clear styrene parts.

The side instrument panel detailed with the corresponding photo etched piece and the stock kit piece.



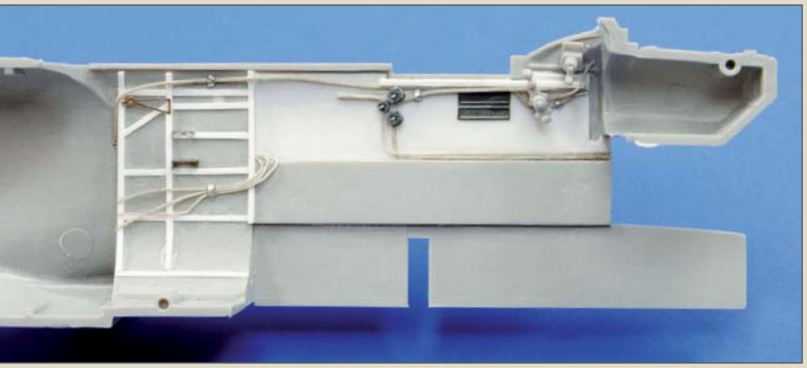
The photo-etched sheet has been sanded on the back side before removing the various pieces from the fret. This is done to improve adherence when gluing these pieces to the model and is easier than attempting to sand each piece after it has been removed.



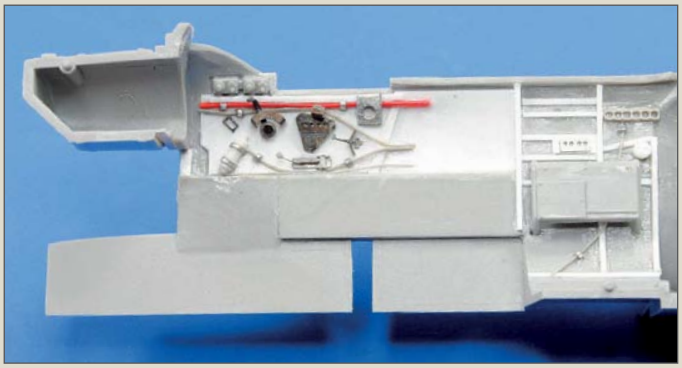


The piece separating the pilot´s area is completely transparent, but only the two triangles on its upper part should remain transparent. The remaining surface can be sanded, detailed and glued like regular non-clear styrene parts.

The rear of the cockpit where the machine gun is located has to be detailed with Evergreen sheet and strip, because out of the box it is smooth and featureless.

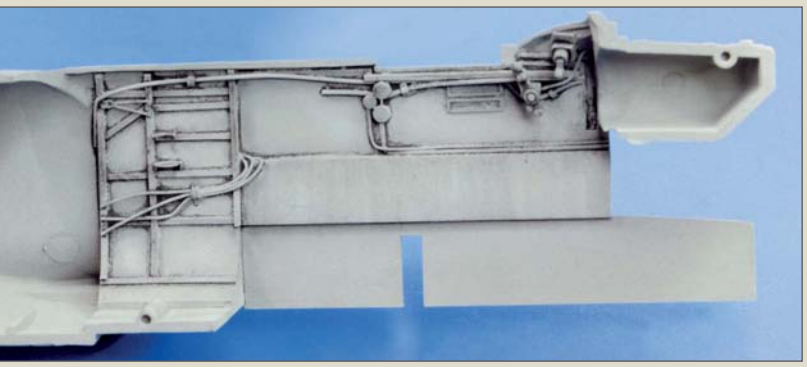


As we can see in the photos, while the photo-etched sheet adds alot of detail, many pieces still had to be made from scratch.

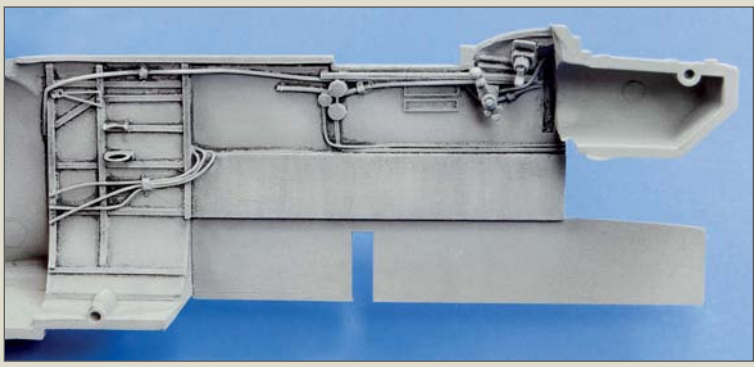


Evergreen sheet and rod have been used to add detail to the cockpit. The wiring in the picture is made of heat stretched styrene sprue, the red one is a computer wire.

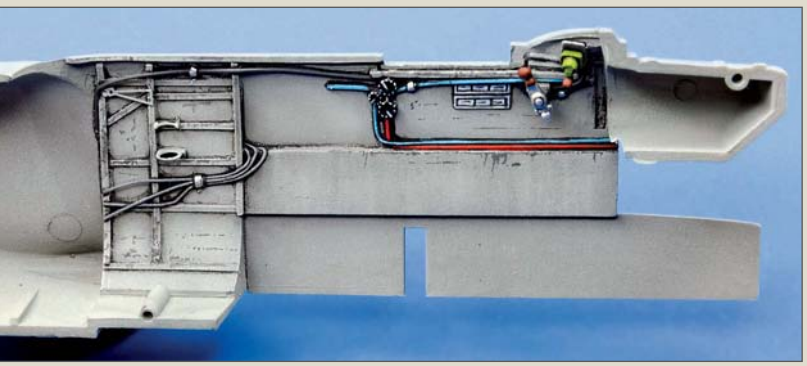
Every piece in the cockpit received a base coat of gray paint with the appropriate highlights and shading. Shading and highlighting was has done with paint thinned to a ratio of three parts of thinner to each part of paint.



Ak Interactive wash has been employed straight from the bottle. After allowing it to set up for a few minutes, a brush dampened with Humbrol thinner is used to remove the excess wash.

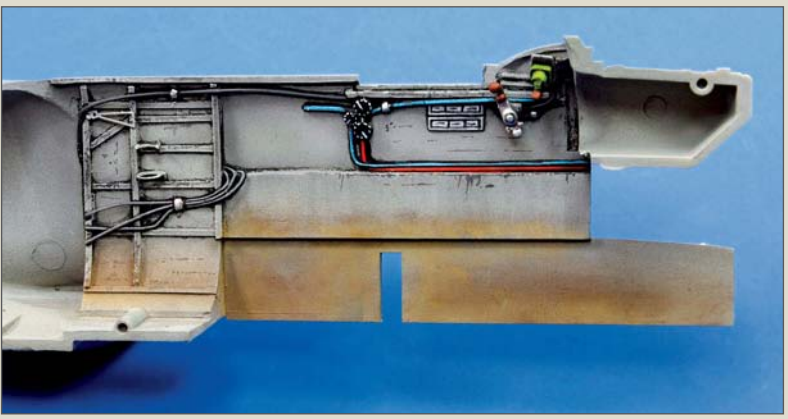


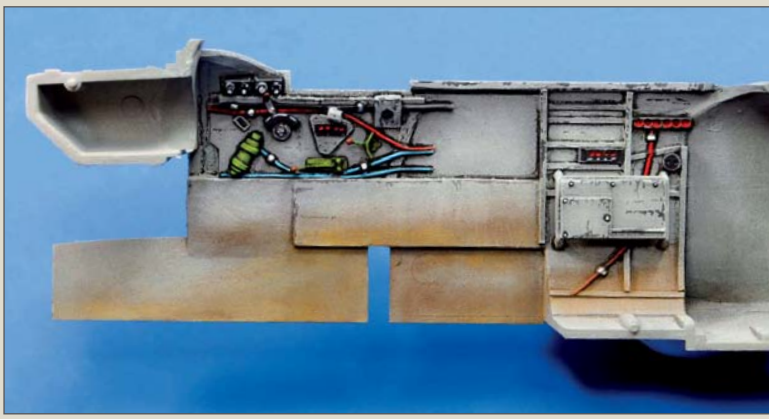
The classic dry-brush technique can still be a great help. Humbrol paint has been used to enhance the different features, paying special attention not to damage the smaller detail pieces with the brush.

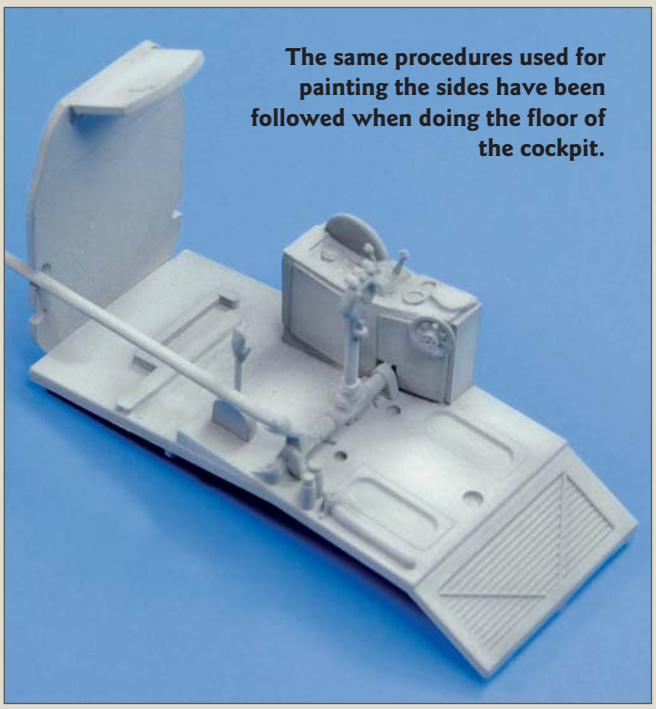


Before painting the details, black profiling was added around the items that were going to receive a different color. Vallejo acrylic colors were then applied to the details with a brand new fine paintbrush.

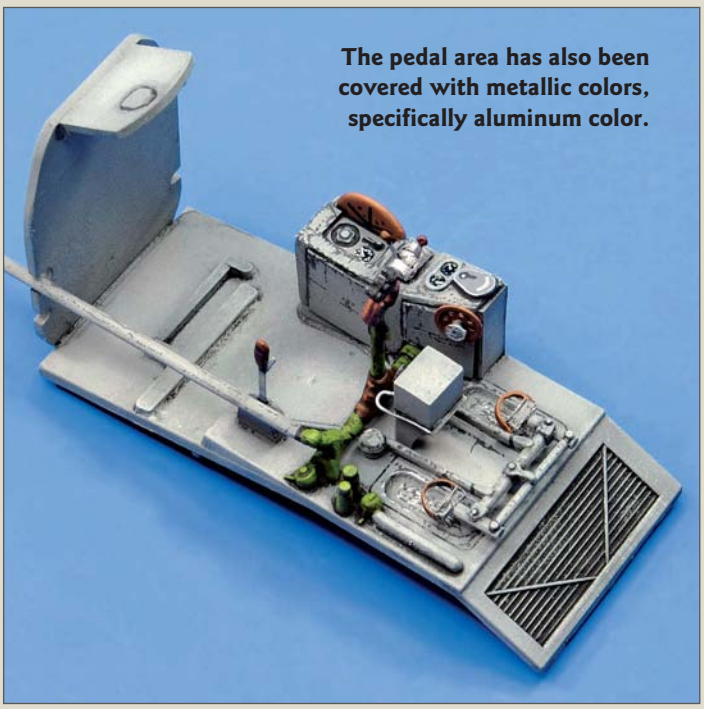
Plane cockpits were not free from the Kursk dust present at that time of year. This effect was re-created using dry color pigments: The darkest one on the hidden areas, and the lighter one on the exposed areas.



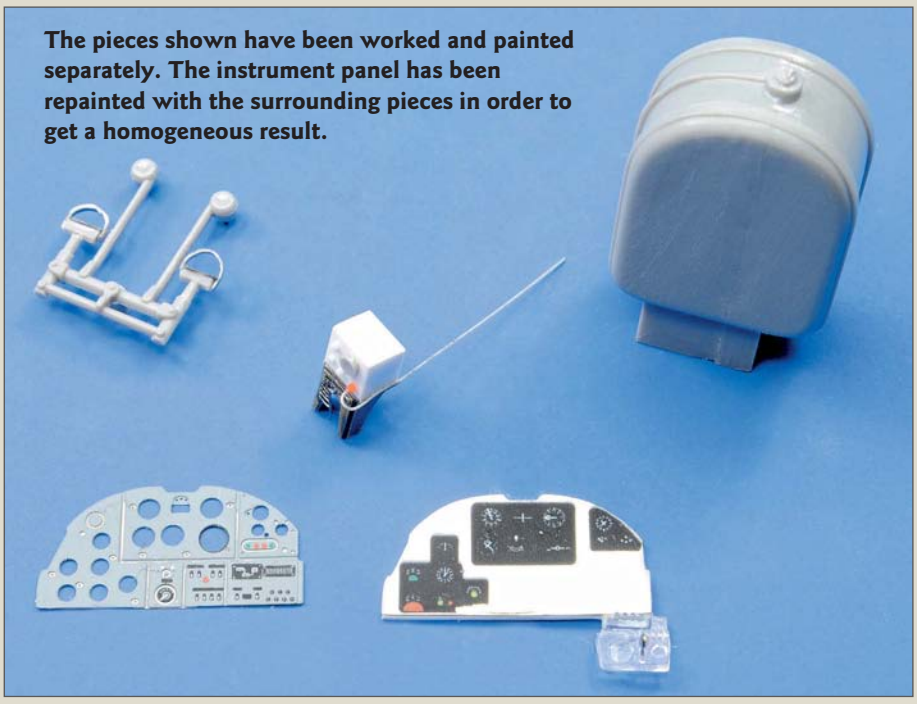




The same procedures used for painting the sides have been followed when doing the floor of the cockpit.



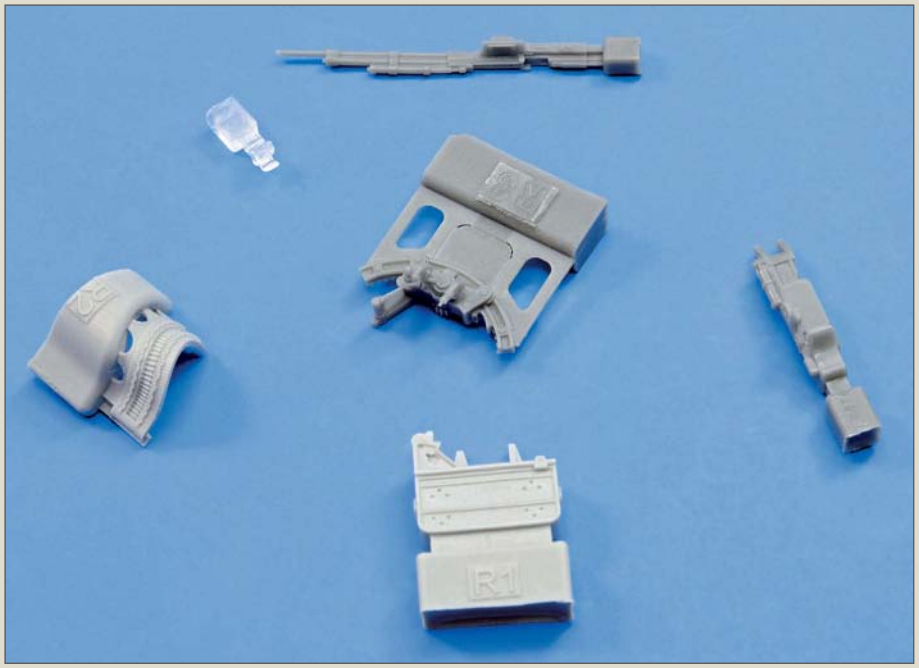
The pedal area has also been covered with metallic colors, specifically aluminum color.



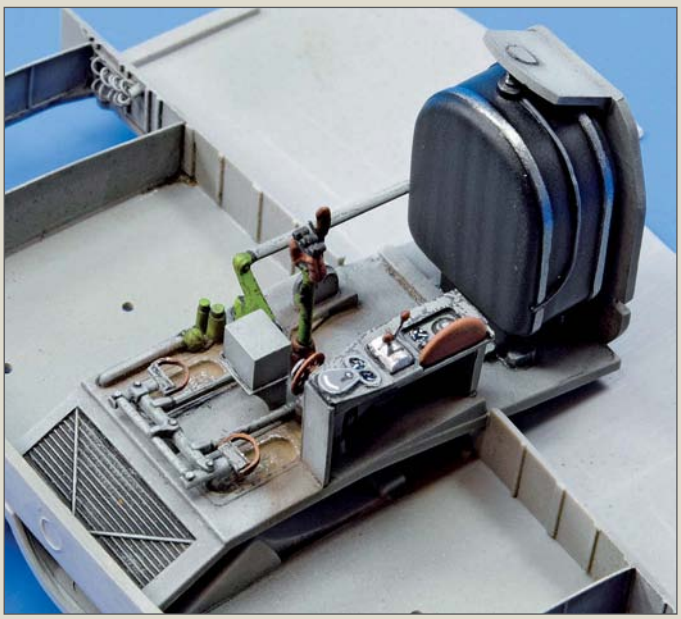
The pieces shown have been worked and painted separately. The instrument panel has been repainted with the surrounding pieces in order to get a homogeneous result.

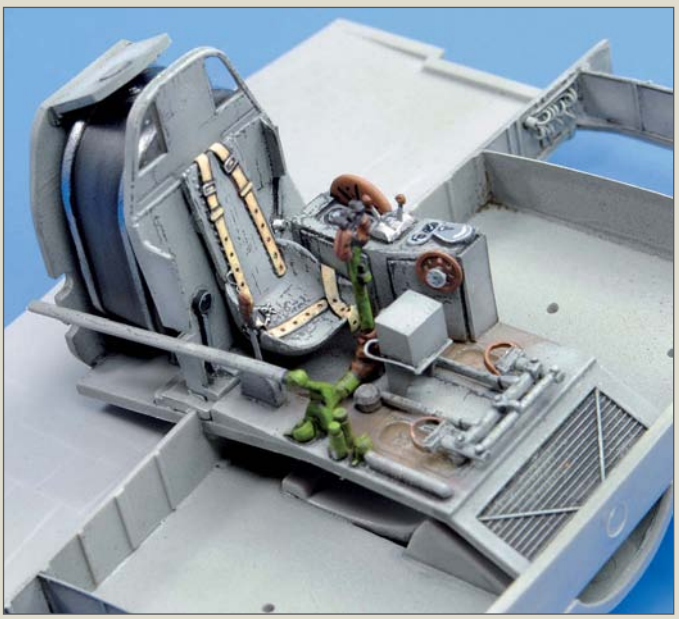
The instrument panel has been dealt with using the same processes employed on the previous pieces, including paint washes and dry brushing. Every instrument receives a drop of ceramic varnish to simulate glass.

Every piece on the cockpit has been given a few paint chips with dark grey paint. This could have also been done with watercolor pencils.

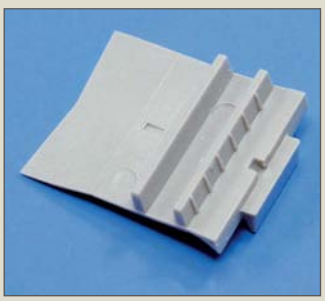


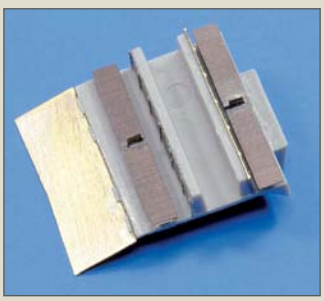
The Eduard parts are designed for the Tamiya kit, but work beautifully on this kit without any major complications.



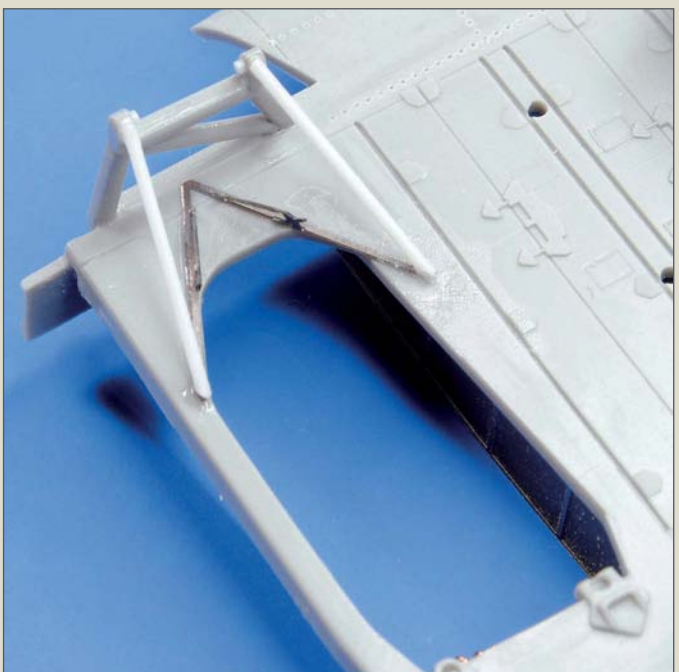


The pieces forming the cockpit fit together wonderfully, the only caveat being the normal amount of test fitting required when using aftermarket parts.

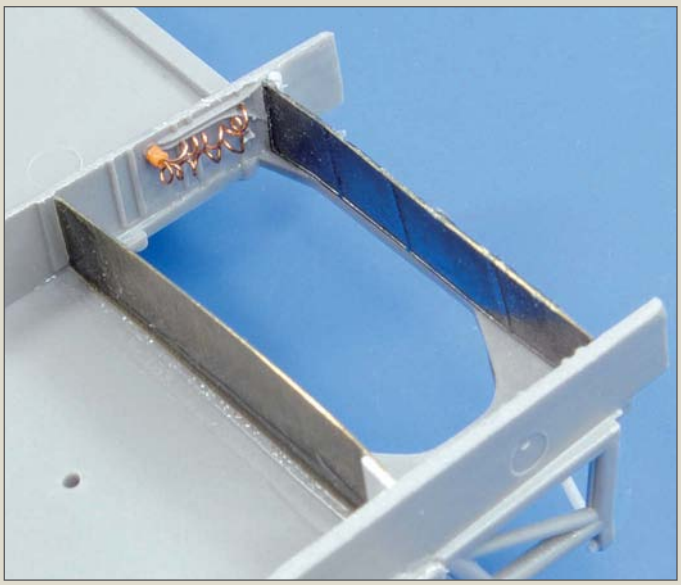




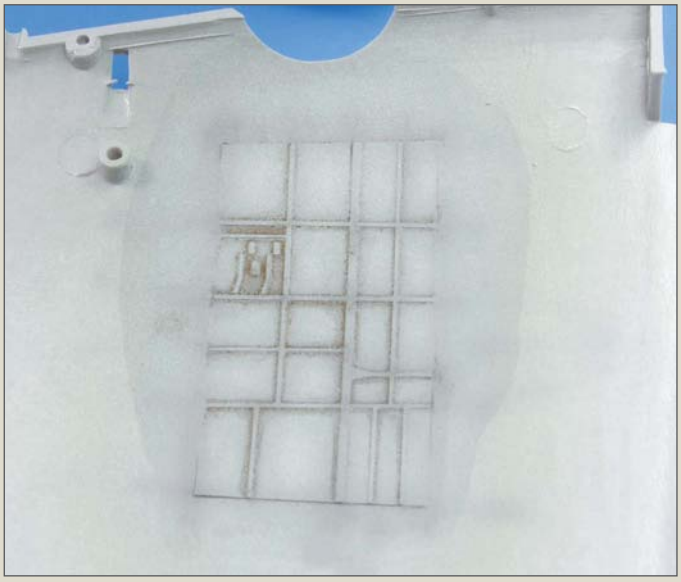
In these two pictures we can see the finesse of the pieces which make up the radiator. The photo etched parts are obviously more in-scale.



The landing gear should be detailed with the Eduard photo-etched parts and also by using Evergreen plastic rods, making sure to test fit so that everything fits when the assemblies are installed.



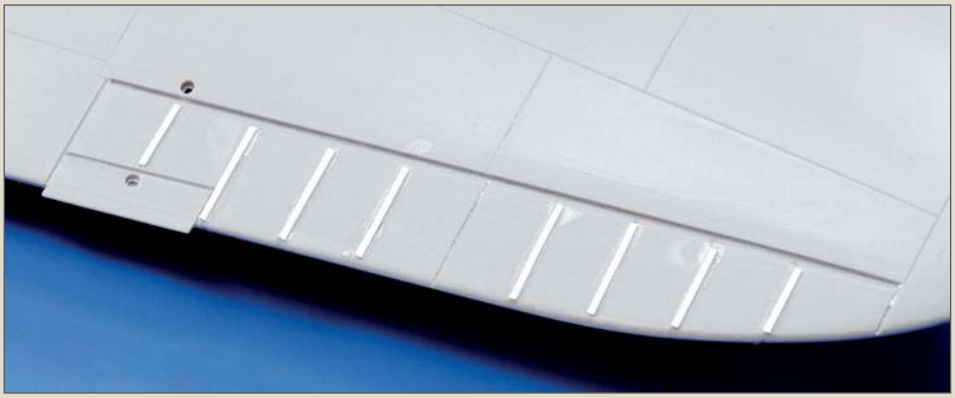
In this kit the wheel-wells are non-existent. This can be fixed simply by using the photo-etched pieces.



The painting processes used for wheel wells are the same ones used for the cockpit, but here the paint wash has been done with a brown color much more suitable for this specific area.

A piece of wire placed on one end of an old paintbrush allows you to pick up a single drop of glue and carefully apply it wherever necessary with a high precision.

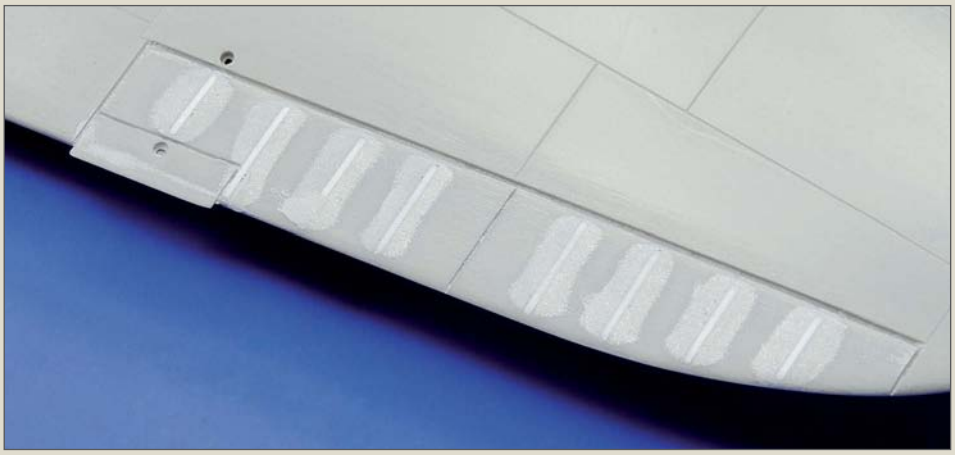
The landing lights have been re-created with a piece of foil. The shape was molded by pressing the end of a paintbrush against an eraser. The frame which holds the glass has been made with 0.2mm thick styrene strip.



MATERIALS EMPLOYED

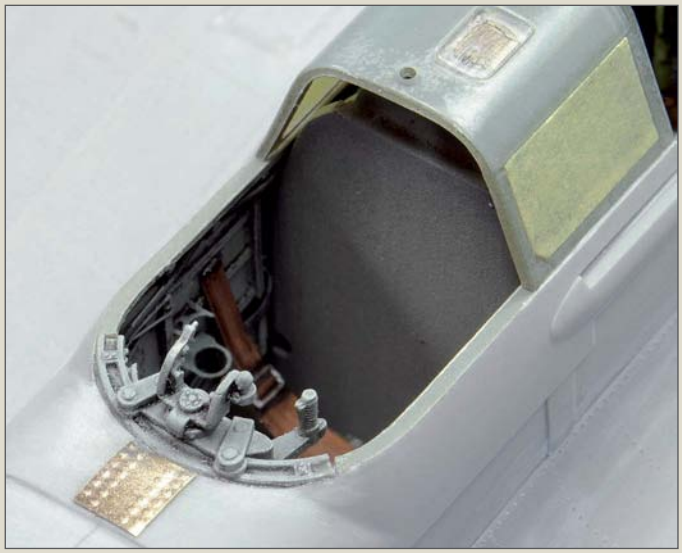
- Eduard 8165 Il-2M Stormovik
- Eduard 48227 Il-2M3 Stormovik
- Eduard 648079 Il-2 UBT Gun
- Quickboost 48079 Ilyushin Il-2 Exhaust
- Vector 48026 Ilyushin Il-2 Corrected spinner
- True Detail Ilyushin Il-2Stormovik Wheel set

In order to enhance the rib structures of the ailerons, a few Evergreen styrene strips of the right size were glued to the aileron surface. Then putty was applied and allowed to dry thoroughly before sanding the surface to reveal the styrene rib structure.



The central part of the fuselage is metal, so rivets, access panels and bomb bay doors need to be re-created.

The air filter needs to be completely rebuilt. The only section which can be used is the forward end of the intake. The inside surface is made from styrene tube. The grille is included in the Eduard photo etched set.

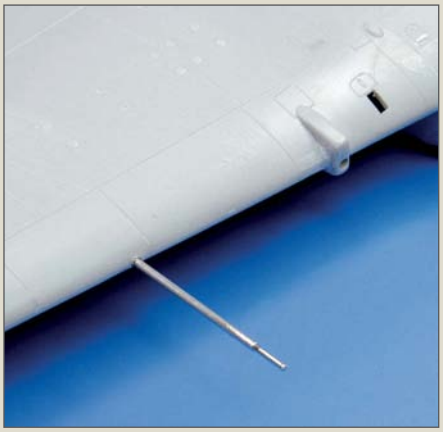


The support for the machine gun is the only piece that has been glued at this point. The rest will be assembled and painted much later to reduce the risk of harm to this delicate assembly.

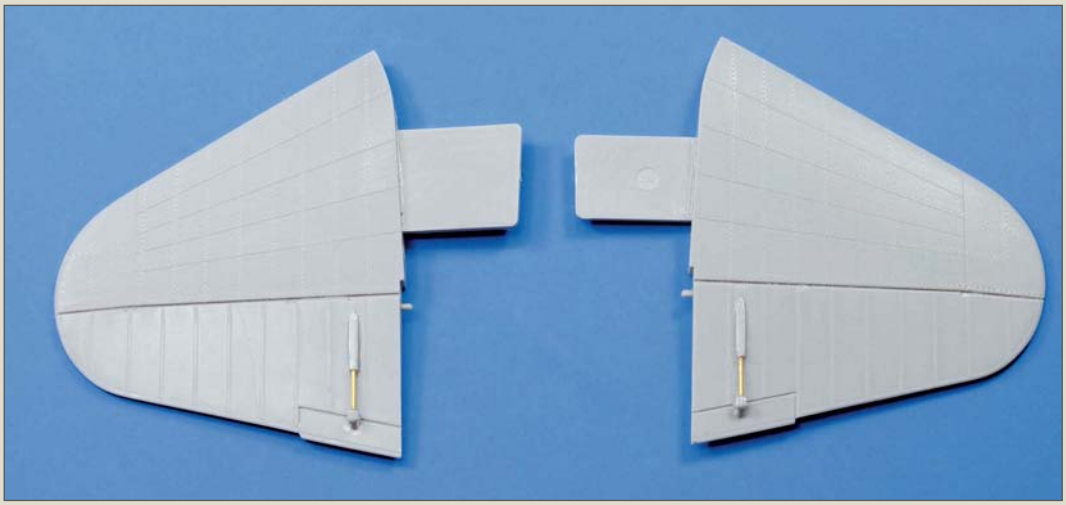
Another necessary improvement to the wing concerns the triangular flap position indicator. I did this by carving a line with a scriber and placing a photo etched triangle.

The actuators which come with the kit are much too thick and some are molded out-of-round. I corrected this by using styrene or metal rods, depending on the diameter needed for each case.

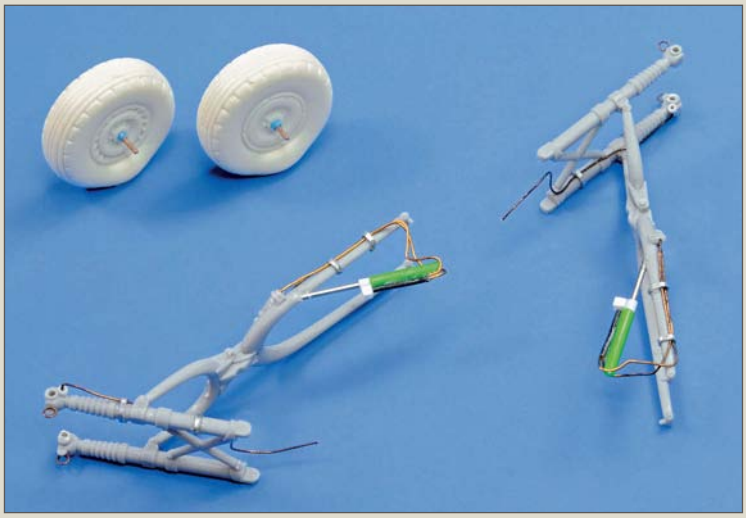
The holes for gluing the rocket launchers have been covered with cyanoacrylate glue and putty. Properly sized holes in the right places where then drilled.



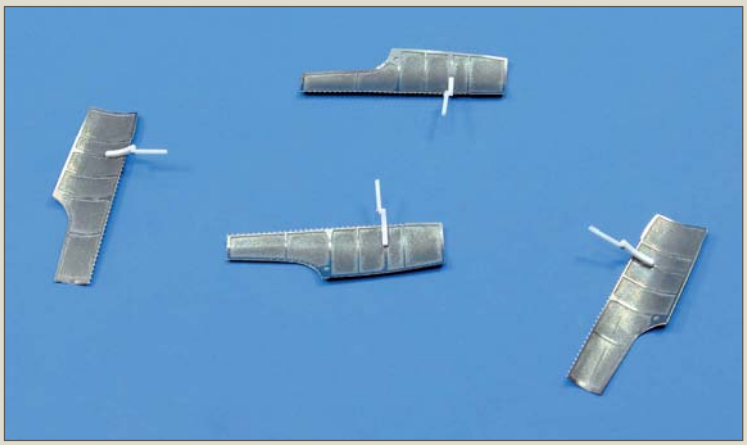
The Pitot tube was replaced with a piece cut from a hypodermic syringe and a sewing pin. Metal items like these are most easily cut with a motor-tool with a cutting disc.



The tail benefits from accentuating the seperation between the control surfaces with a scribing tool, scoring panel lines and replacing the actuators.



The detail of the landing gear itself is quite good, so only cables were added along with the actuator which the manufacturer has omitted entirely. The True Detail resin wheels improve the looks of the whole gear.



The overly-thick kit landing gear doors were replaced completely with the photo etched version.

PAINTING

The aluminum base coat was applied. In this case it wasn't necessary to achieve a perfectly smooth surface, but if a flat surface was required, then it would have required polishing prior to painting.

The hairspray coat can be airbrushed or applied straight from the can. When working straight from the can, care is needed to prevent puddling of the hairspray.

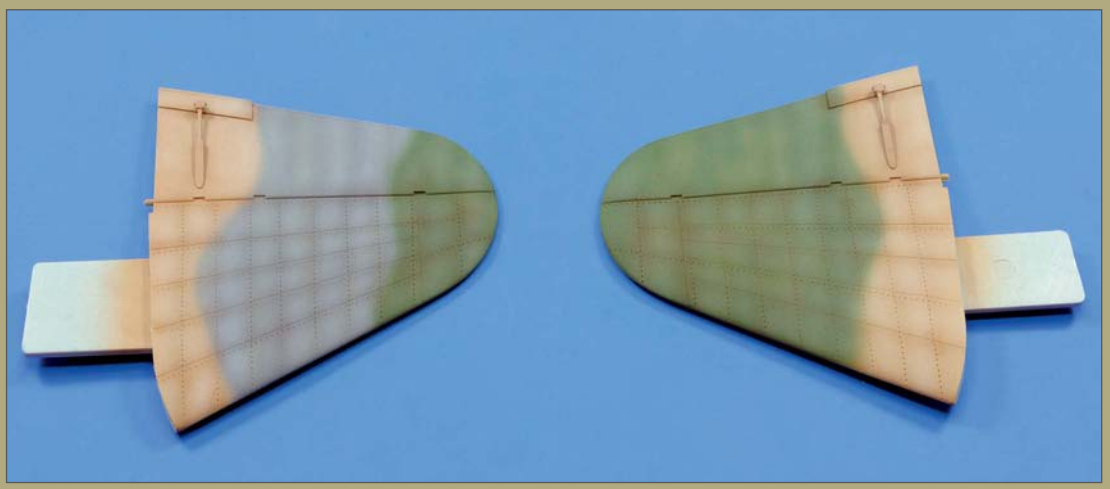
The lightest colors were applied in thin coats. It would have been easier to paint the whole plane with the base gray, but in order to keep the color coats from building up thickness, each camouflage color area was applied seperately.

The other colors were applied right away. Any chipping or paint removal should be done within a short amount of time, as later it will become more dificult.

Highlights were applied. This camouflage consists of several colors, so the ideal method would be to use more than one airbrush kit in order to save the time that it takes to clean the airbrush and change colors.

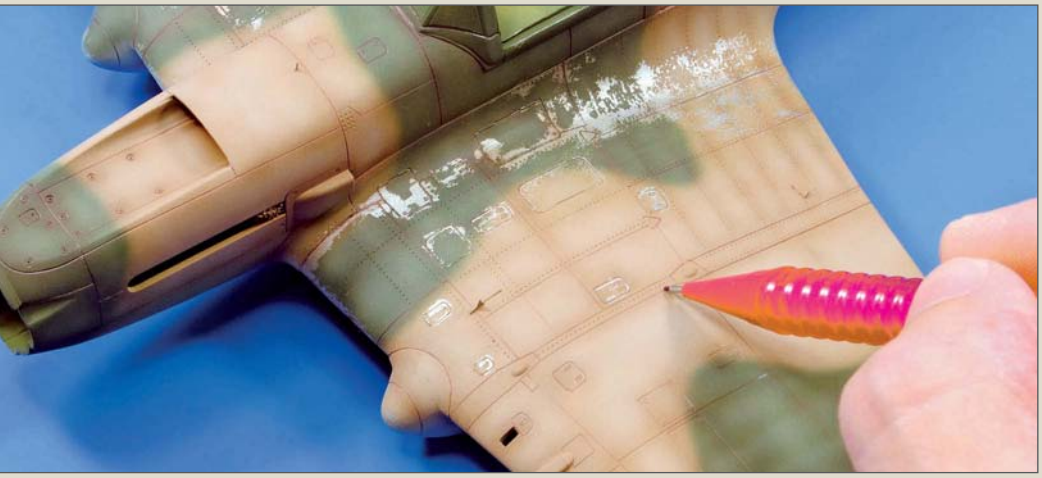
With a paintbrush (with trimmed hairs) soaked in water, Paint was removed in some places. Paint residue and water should be regularly removed with a clean brush in order to avoid unwanted stains from the resulting sludge.

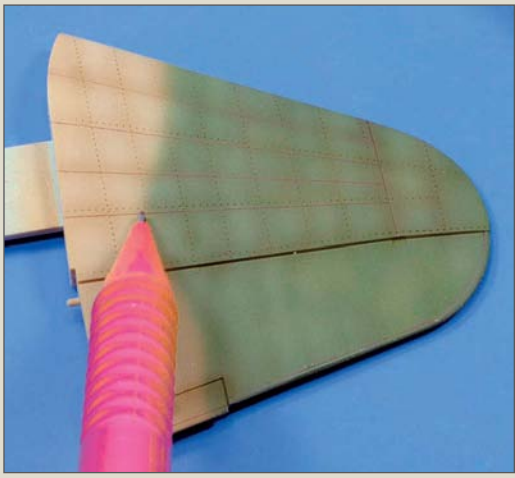
These are the results obtained after using the hairspray technique. With a complex camouflage pattern it will obviously take longer to do, but it is advisable to do it all in one sitting.



The rear flying surfaces were also made out of metal, but I chose not to use this technique there in order to keep the viewers attention focused on the wing area.

In spite of the fact that the blue used here is lighter than the three colors used on the upper surfaces, this color was applied last. By doing this it wasn't necessary to mask the demarcation line where the upper and lower colors meet.

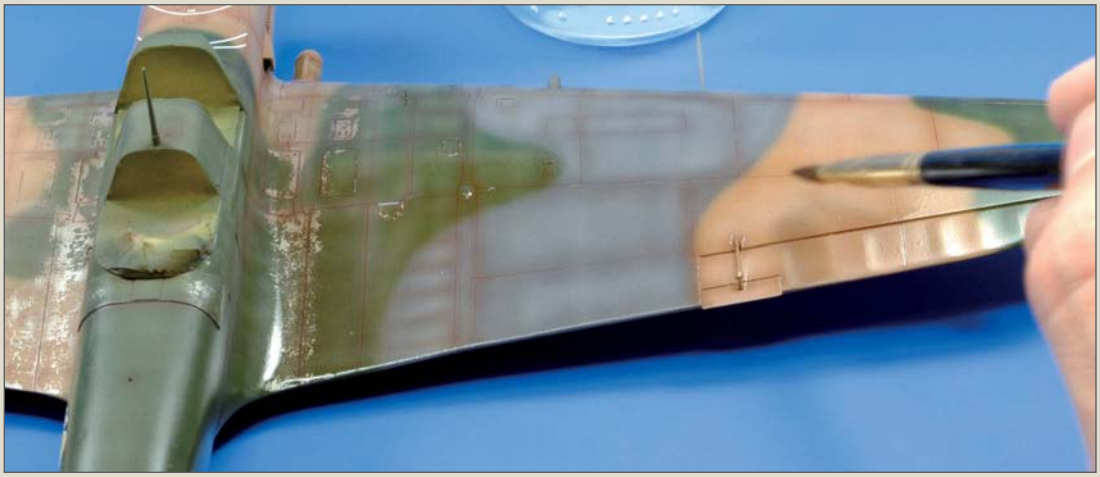




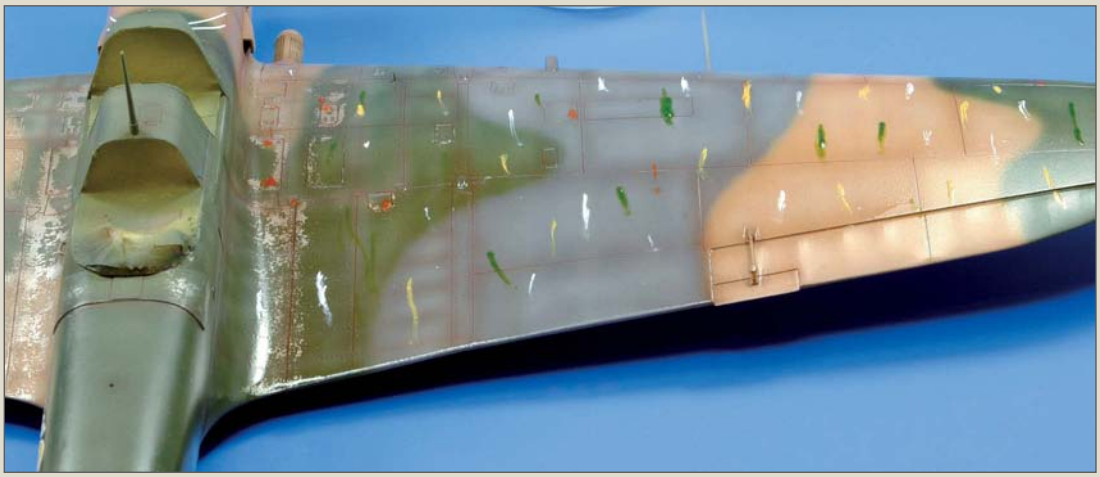
All of the upper panels were marked using a mechanical pencil and a brown colored pencil lead. The tip of the pencil lead was sharpened several times during the process. The same process was repeated on the lower surfaces but using regular black pencil lead.

The next step was to add shading using a highly diluted mixture of black and brown paint. This has to be done carefully in order to avoid a heavy handed appearance.

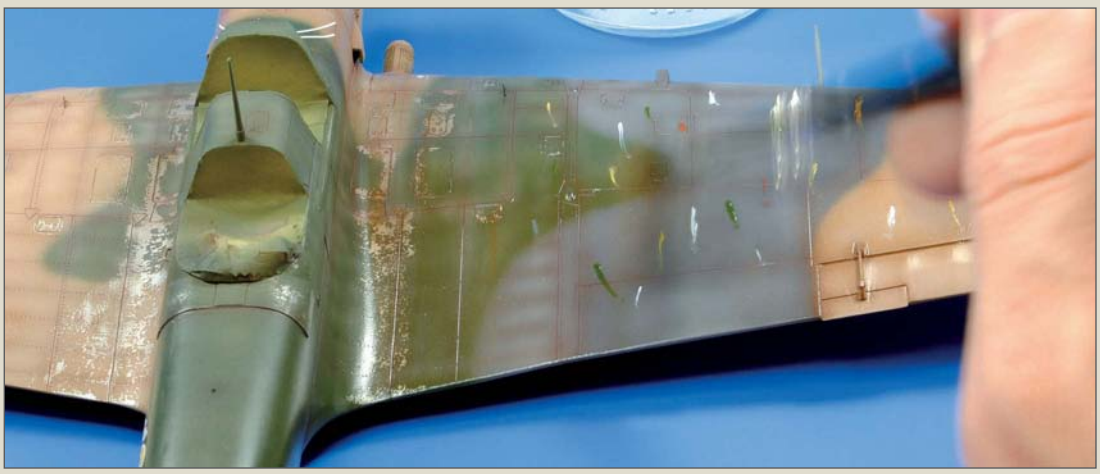
Before the decals were applied, gloss varnish was applied in several thin coats, being careful not to create varnish puddles in the areas where the decals would be applied.



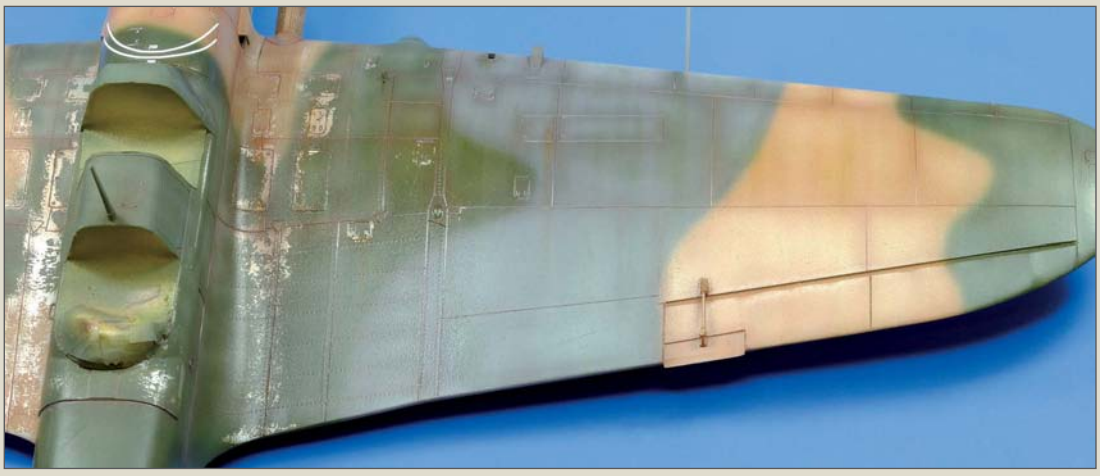
Once the decals were in place and sealed with an additional coat of gloss varnish, work began with the oil paints. The first step is to soak the area where the oils are applied with Humbrol thinner.



Small amounts of oil paint were then thoroughly worked onto the surface.

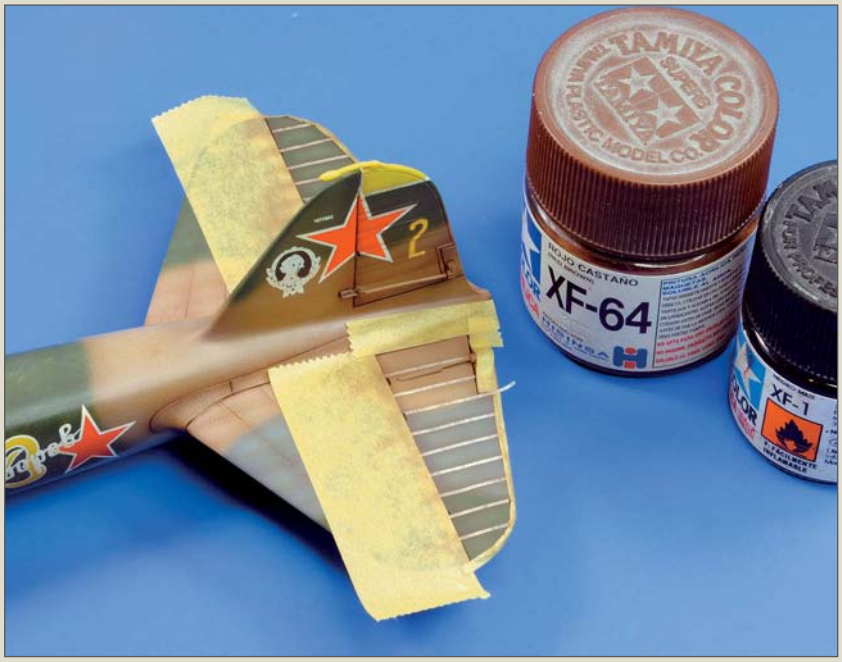


A flat tipped brush was used to blend the oil paint by dragging lightly back and forth, parallel to the airflow. Getting the right amount of oil paint on the surface is essential.



In this picture we can see the dried oil paint. This operation can be repeated until we get the results we seek. We can also go over again the area with a different color in order to obtain a different effect.

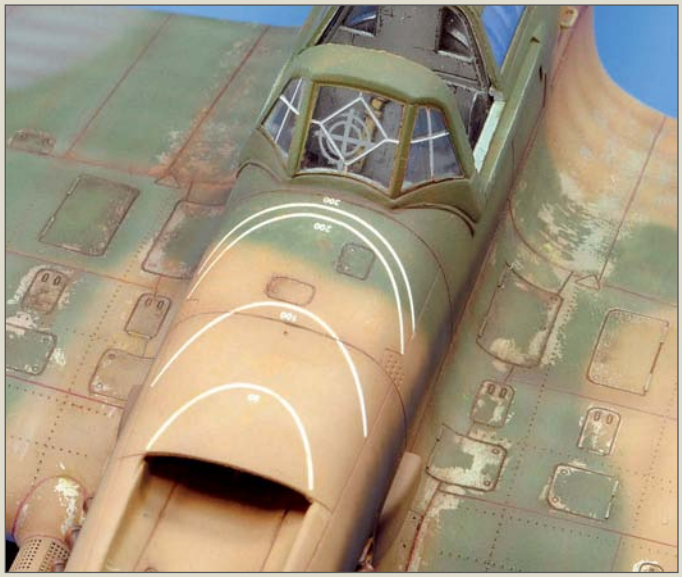
The exhausts were painted a reddish brown color, followed by an application of a black oil paint wash. Once the wash was thoroughly dry, small amounts of rust colored pigment diluted with Humbrol thinner were applied.



Thin strips of masking tape were used to mark the ribs of the rudders. Airbrushing a highly diluted mixture of black and brown paint along the edges of the tape will yeild a very satisfying and subtle dimensional effect.

The exhaust stains were painted with black, brown and grey paint. The colors were mixed and airbrushed in very thin coats starting with the gray for the main area and working down to the black hue on the borders.

The UBT machine gun was painted black and polished with metallic pigments. The ammunition box was painted using the same techniques used on the cockpit.

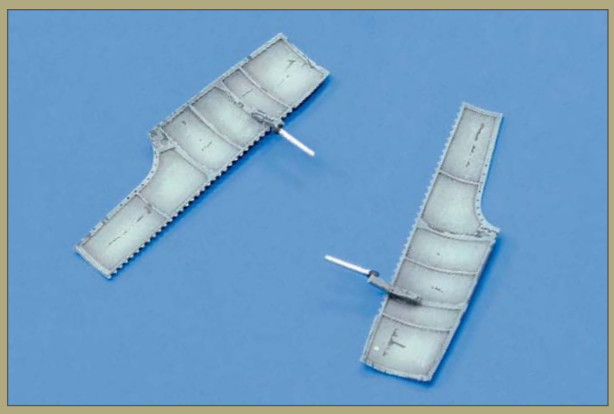


The decals which represent the aiming system were cut apart and each piece was placed separately in order to avoid placing a single large decal which would have been unbearably glossy.

The guns and machine gun shafts have all been replaced with hypodermic syringes. These were painted matte black and then treated with metallic pigments.

The propeller and its hub have been painted just like the rest of the plane. The paint chips have been applied with watercolor pencils.

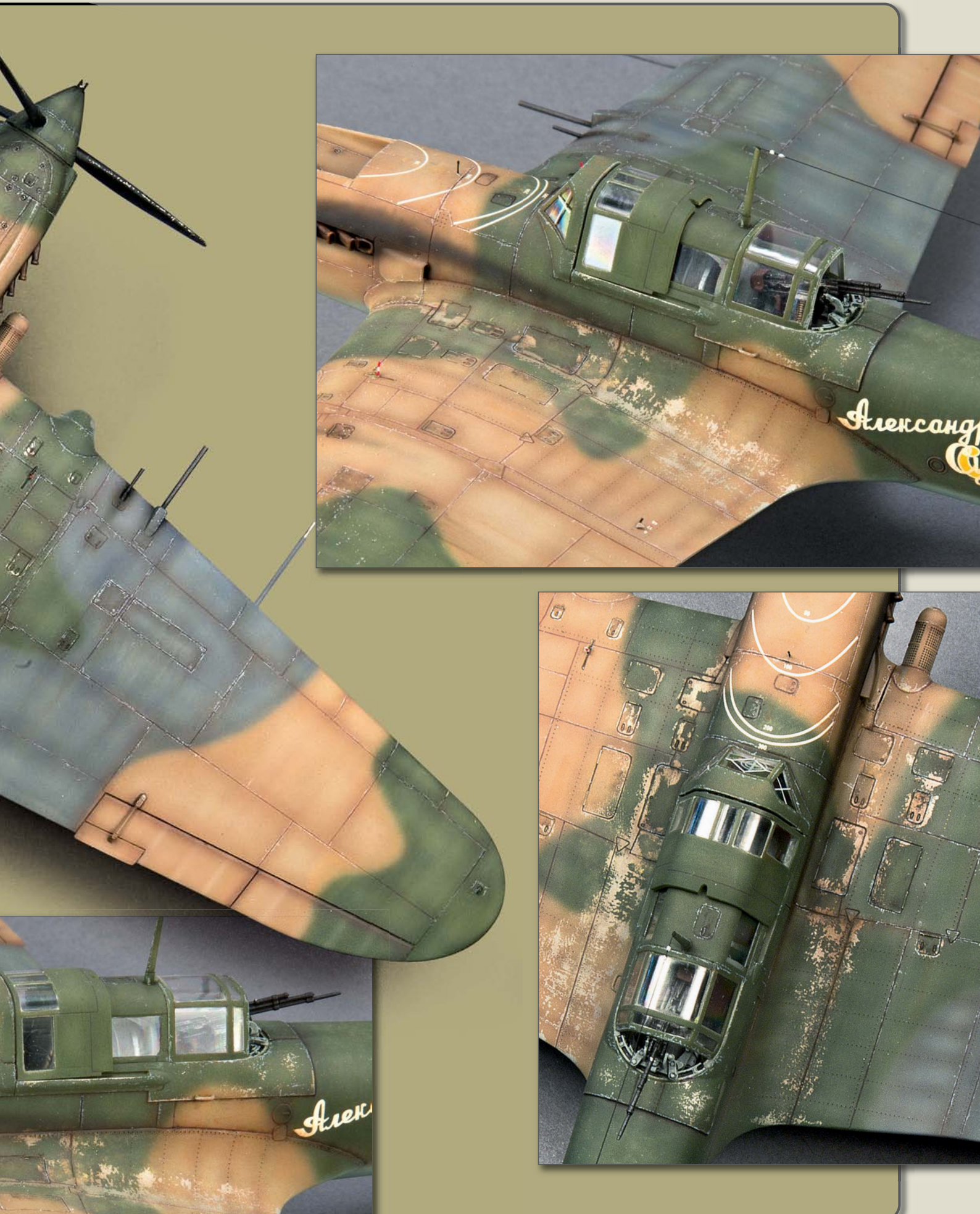
UNDERCARRIAGE



The landing gear were painted using the same technique as the wheel wells, including a few paint chips applied with a fine paintbrush.

Once painted, the wheels have received a black oil paint wash. When these were dry, pigments were applied, beginning with darker pigments for the center of the wheel and lighter pigments for the outside.

2



COLOUR CHART

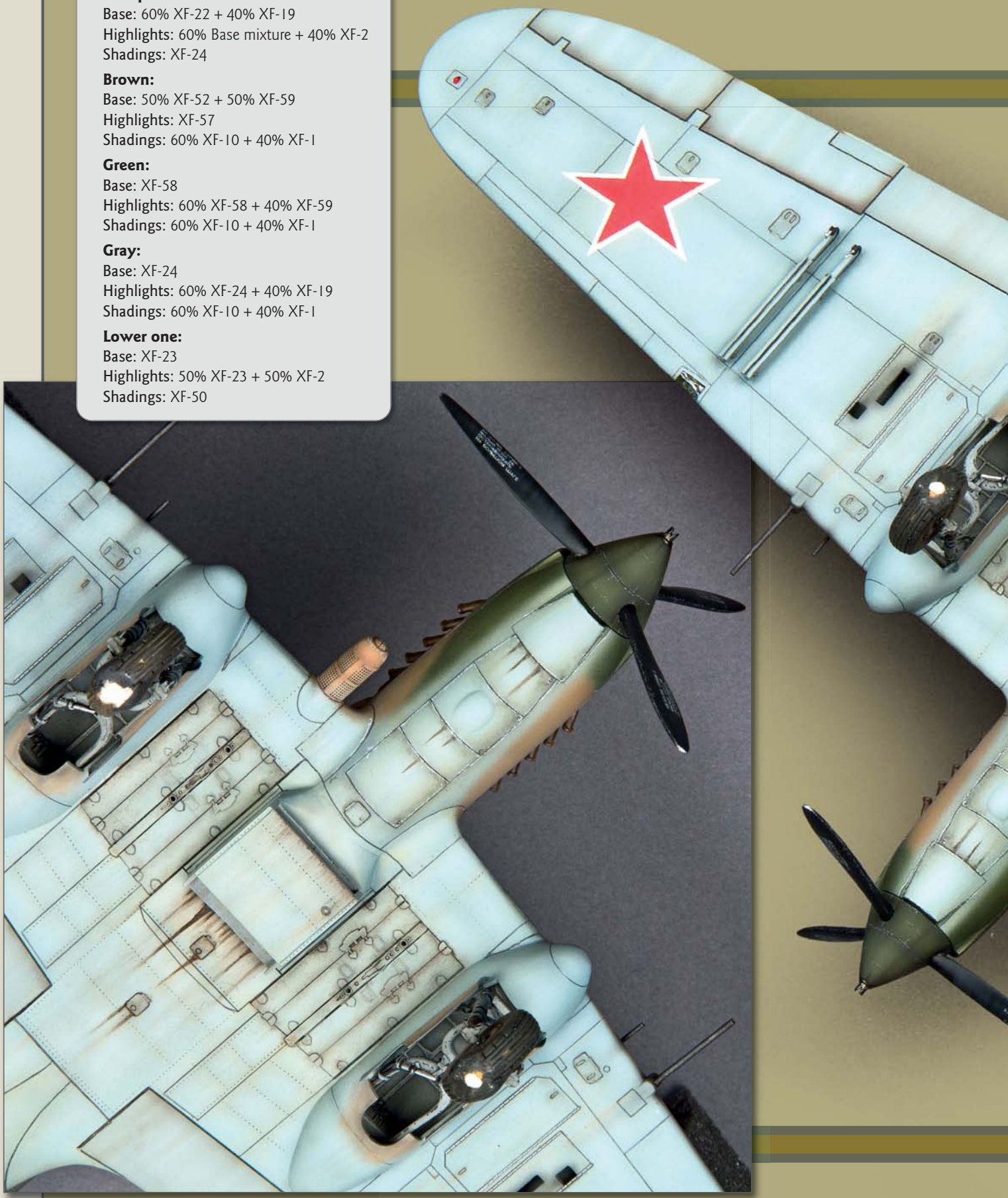
Cockpit:
Base: 60% XF-22 + 40% XF-19
Highlights: 60% Base mixture + 40% XF-2
Shadings: XF-24

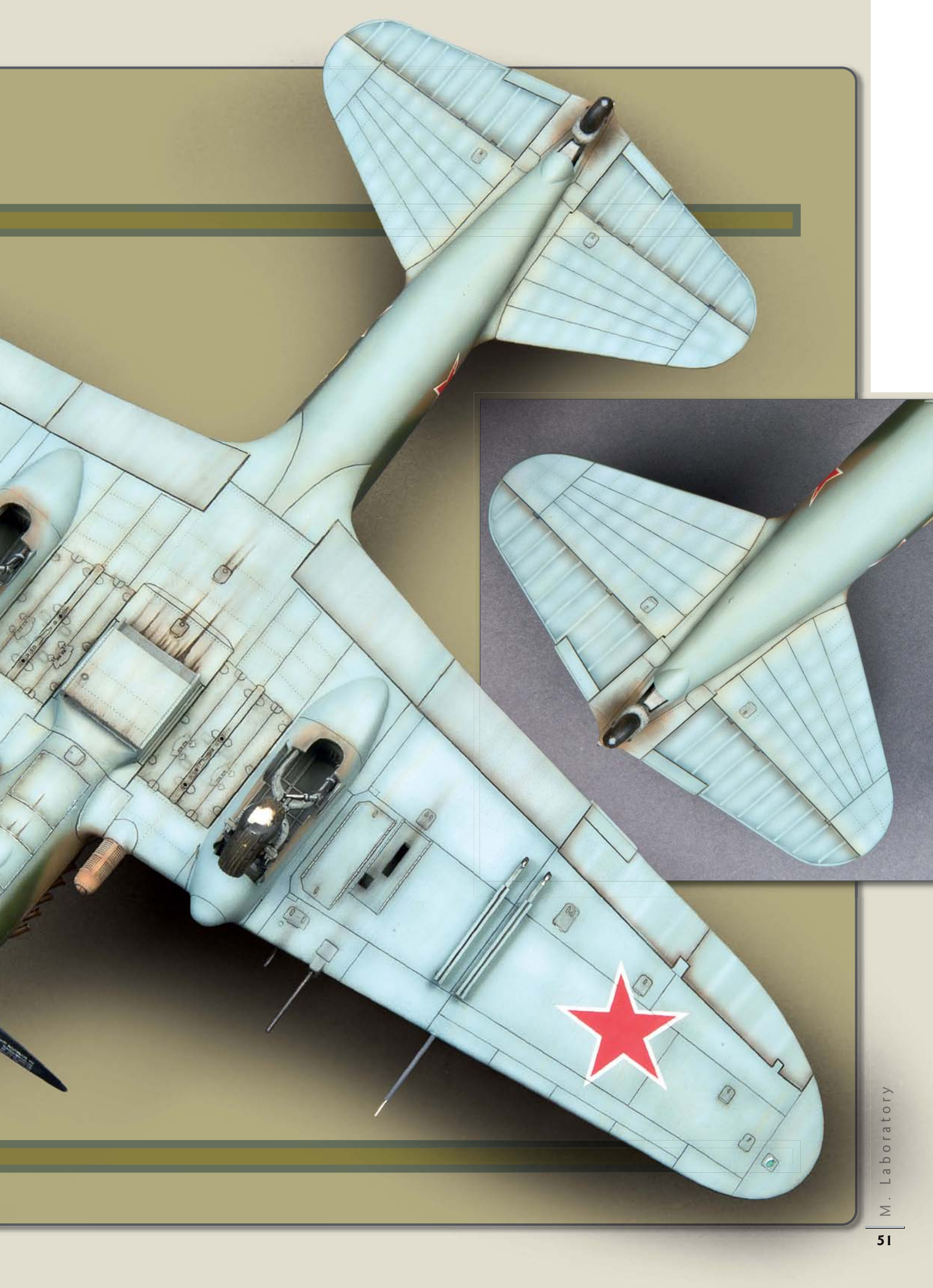
Brown:
Base: 50% XF-52 + 50% XF-59
Highlights: XF-57
Shadings: 60% XF-10 + 40% XF-1

Green:
Base: XF-58
Highlights: 60% XF-58 + 40% XF-59
Shadings: 60% XF-10 + 40% XF-1

Gray:
Base: XF-24
Highlights: 60% XF-24 + 40% XF-19
Shadings: 60% XF-10 + 40% XF-1

Lower one:
Base: XF-23
Highlights: 50% XF-23 + 50% XF-2
Shadings: XF-50





2

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